SONY

CCD UNIT

OHB-T450WS
OHB-T450WSP

Power HAD

MAINTENANCE MANUAL
1st Edition (Revised 3)
Serial No. 10001 and Higher: OHB-T450WS (UC)
Serial No. 30001 and Higher: OHB-T450WS (J)
Serial No. 40001 and Higher: OHB-T450WSP (CE)

⚠警告

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⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

Table of Contents

Manual Structure

Purpose of this manual ..... 5 (E)
Contents ..... 5 (E)
Relative manual ..... 5 (E)
Board Change Information ..... 6 (E)

1. Installation

1-1. Notes on Installation ..... 1-1 (E)
  1-1-1. Note on OHB Installation ..... 1-1 (E)
  1-1-2. Checking ROM Version ..... 1-1 (E)
1-2. Supplied Accessories ..... 1-1 (E)
1-3. Connectors and Cables ..... 1-2 (E)
  1-3-1. Connector Input/Output Signals ..... 1-2 (E)
  1-3-2. Recommended 29P Cable ..... 1-4 (E)
  1-3-3. Wiring Diagram for Cables ..... 1-5 (E)
1-4. Alignment after OHB Installation ..... 1-6 (E)
1-5. Selecting 36 dB Master Gain ..... 1-6 (E)
1-6. 16:9/4:3 Selector Board ..... 1-7 (E)

2. Service Overview

2-1. Note on Service ..... 2-1 (E)
2-2. Circuit Description ..... 2-2 (E)
2-3. Standard Tightening Torque for Screws ..... 2-3 (E)
2-4. Replacing the DC/DC Converter ..... 2-3 (E)
2-5. Removing/Attaching the OPT Cover ..... 2-4 (E)
2-6. Positioning Adjustment for Filter Knob ..... 2-4 (E)
2-7. Description on Flexible Card Wire ..... 2-5 (E)
  2-7-1. Disconnecting/Connecting the Flexible Card Wire ..... 2-5 (E)
  2-7-2. Forming Before Installation ..... 2-6 (E)
2-8. Replacing the Printed Wiring Board ..... 2-7 (E)
  2-8-1. Adjusting Items Required After Replacing the Board ..... 2-7 (E)
  2-8-2. Removing/Installing the Boards ..... 2-8 (E)
  2-8-3. Note in Replacing the BC-30 Board ..... 2-10 (E)
2-9. Replacing the 29P Connector ..... 2-11 (E)
  2-9-1. OPT HEAD Connector ..... 2-11 (E)
  2-9-2. CAM BODY Connector ..... 2-12 (E)
2-10. Replacing the Lens Connector ..... 2-14 (E)
2-11. Replacing the Lens Harness ..... 2-15 (E)

2-12. Description on CCD Unit ..... 2-16 (E)
2-12-1. Description on CCD Block Number ..... 2-16 (E)
2-12-2. Replacing the CCD Unit ..... 2-16 (E)
2-13. Recommended Replacement Parts ..... 2-17 (E)
2-14. Optional Fixtures List ..... 2-17 (E)
2-15. Extending the Cable Adaptor ..... 2-18 (E)
2-16. Checking/Repairing the CCD Unit ..... 2-20 (E)
2-17. Notes on Spare Parts ..... 2-21 (E)

3. Electrical Alignment

3-1. Preparation ..... 3-1 (E)
3-1-1. Equipment Required ..... 3-1 (E)
3-1-2. Note on Adjustment ..... 3-1 (E)
3-1-3. Maintaining the Grayscale Chart ..... 3-2 (E)
3-1-4. Preparations ..... 3-3 (E)
3-2. Gain Adjustment (IF-707 Board) ..... 3-4 (E)

4. Spare Parts

4-1. Screws List 4-1
4-2. Exploded Views 4-2
Optical Head 4-2
Cable Adaptor 4-4
Tripod Adaptor 4-6
4-3. Electrical Parts List 4-7
4-4. Frame List 4-21
4-5. Supplied Accessories 4-22
4-6. Optional Fixtures 4-22
4-7. Changed Parts 4-23

5. Semiconductor Pin Assignments

6. Block Diagram

Overall 6-1

http://getMANUAL.com

7. Schematic Diagrams

CN-1633 7-1
BI-91 7-2
PA-214 7-3
IF-707 7-5
IF-708 7-6
ROM-27 7-6
TG-198 7-8
DR-362 7-9
FRAME 7-11

8. Board Layouts

CN-1633 8-1
BI-141 8-1
BI-91 8-1
PA-214 8-3
IF-707 8-5
CN-1634 8-5
IF-708 8-7
ROM-27 8-7
TG-198 8-9
DR-362 8-11

Manual Structure

Purpose of this manual

This manual is the maintenance manual for CCD unit OHB-T450WS/T450WSP. This manual describes the information items that premise the service based on the components parts such as alignment, schematic diagrams, board layouts and spare parts lists, assuming use of system and service engineers.

Contents

The following are summaries of all the sections for understanding the contents of this manual.

Section 1. Installation

Describes information about ROM version check, connectors and cables and adjustment after installation of OHB.

Section 2. Service Overview

Describes information about notes on service, circuit description and and replacement of main parts.

Section 3. Electrical Alignment

Describes the electrical adjustments of this unit.

Section 4. Spare Parts

Describes parts list, exploded views and supplied accessories used in the unit.

Section 5. Semiconductor Pin Assignments

Describes function diagrams and pin names of semiconductor used in the unit.

Section 6. Block Diagram

Describes overall block diagram and block diagrams for every circuit board.

Section 7. Schematic Diagrams

Describes schematic diagrams for every circuit board and frame wiring .

Section 8. Board Layouts

Describes board layouts for every circuit board.

Relative manual

Besides this maintenance manual the following manual is available for this unit.

- **Installation Manual (Supplied with this unit)**
  This manual is necessary when the unit is supplied and installed.

Board Change Information

The BI-91 board has changed to the BI-141 board corresponding to the following serial numbers. Although the board name changes, its circuit configuration is the same. In this maintenance manual, read " BI-141" for "BI-91".

BI-91(R)/(G)/(B)	S/N	10001 through 10050	
		10061 through 10090:	OHB-T450WS(UC)
	S/N	30001 through 30015:	OHB-T450WS(J)
	S/N	40001 through 40020:	OHB-T450WSP(CE)
BI-141(R)/(G)/(B)	S/N	10051 through 10060	
		10091 and Higher:	OHB-T450WS(UC)
	S/N	30016 and Higher:	OHB-T450WS(J)
	S/N	40021 and Higher:	OHB-T450WSP(CE)

Section 1
Installation

1-1. Notes on Installation

1-1-1. Note on OHB Installation

When installing the OHB with the serial number as shown below in the BVP-550/550P which was upgraded by BKP-5090 or BVP-570, be sure to perform adjustment described in the supplement separately available (Sony P/N: 9-968-544-01) in order to obtain optimum CCD's dynamic range.
For details, please consult your local Sony Sales Office/Service Center.

Model	Serial No.
OHB-T450WS (UC)	10001 - 10090
OHB-T450WSP (CE)	40001 - 40040

1-1-2. Checking ROM Version

When the OHB-T450WS/T450WSP is installed in the BVP-550/550P, be sure to check that the ROM version for IC36/AT-95 board of the camera is Ver.3.01 or higher. If ROM replacement is required, please contact your local Sony Sales Office/Service Center.
In the following cases, it is unnecessary to check.

- When the OHB is installed in the camera which is provided with the AT-126 board (such as the BVP-550/550P upgraded by the BKP-5090 or the BVP-570)

ROM Version

IC36/AT-95 board Ver. 3.01 or higher

Note

ROM version can be checked easily on the viewfinder screen. For details, refer to the BVP-550/550P/570P maintenance manual, Section 3 "Setup Menu".

1-2. Supplied Accessories

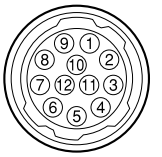
Description	Sony P/N	Qt'y	Remarks
Tripod adaptor	————————	1	
PR-212 board	A-8269-296-A	1	Aspect ratio switching board Connect this board to the PR-211 board of BVP-550/550P ∗1
Screw B 3 × 4	7-682-545-04	3	Use when installing the PR-212 board
Cable assembly (29P)	1-575-041-21	1	
Filter label	3-692-192-01	1	
Maintenance manual	————————	1	
Installation manual	————————	1	

∗1 : Refer to Section 1-6 for details.

1-3. Connectors and Cables

1-3-1. Connector Input/Output Signals

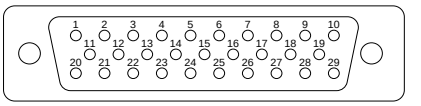
LENS (12P Female)



(External view)

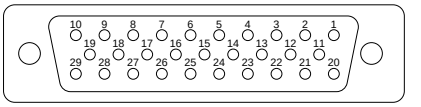
Pin No.	Signal	I/O	Specifications
1	RET VIDEO ENABLE	IN	ENABLE: 0 V, DISABLE: +5 V or OPEN
2	RET 2 ENABLE	IN	ENABLE: 0 V, DISABLE: +5 V or OPEN
3	GND		GND for UNREG
4	AUTO +5 V	OUT	AUTO: +5 V, MANU: 0 V or OPEN
5	IRIS CONT	OUT	+3.4 V (F16) to +6.2 V (F2.8)
6	UNREG	OUT	+10.5 V to +17 V
7	IRIS POSITION	IN	+3.4 V (F16) to +6.2 V (F2.8)
8	AUTO/MANU	OUT	AUTO IRIS: 0 V, MANUAL IRIS: +5 V
9	EXTENDER ON/OFF	IN	EX 2 ON: 0 V, EX 0.8 ON: +1.8 V, OFF: +4.8 V
10	ZOOM POSITION	IN	WIDE: 2 V, TELE: 7 V
11	(Spare)		No connection
12	(Spare)		No connection

OPT HEAD (D-sub, Male)



(External view)

CAM BODY(D-sub, Female)



(External view)

Pin No.	Signal	I/O OPT HEAD side	 CAM BODY side	Specifications
1	GND			
2	G VIDEO (X)	OUT	IN	V 125 mVp-p, (Zo = 75 Ω)
3	G VIDEO (G)			GND for G VIDEO
4	R VIDEO (X)	OUT	IN	V 125 mVp-p, (Zo = 75 Ω)
5	R VIDEO (G)			GND for R VIDEO
6	B VIDEO (X)	OUT	IN	V 125 mVp-p, (Zo = 75 Ω)
7	B VIDEO (G)			GND for B VIDEO
8	UNREG	IN	OUT	+10.6 to +17.0
9	UNREG (G)			GND for UNREG
10	LD (CCD)	IN	OUT	
11	(Spare)			No connection
12	HT SG	IN	OUT	
13	FILTER POSI	OUT	IN	
14	EXTENDER ON/OFF	OUT	IN	ON: 0V, OFF: +5 V or OPEN
15	REMOTE/LOCAL	IN	OUT	0 V: LOCAL, +5 V: REMOTE
16	IRIS POSI	OUT	IN	+3.4 V (F16) to +6.2 V (F2.8)
17	IRIS CONT	IN	OUT	+3.4 V (F16) to +6.2 V (F2.8)
18	VTR START/STOP	OUT	IN	
19	RET VIDEO EN	OUT	IN	ENABLE: 0 V, DISABLE: +5 V or OPEN
20	SYNC	IN	OUT	4 Vp-p
21	SYNC (G)			GND for SYNC
22	H SEP	OUT	IN	4 Vp-p
23	H SEP (G)			GND for H SEP
24	TEMP	OUT	IN	
25	(Spare)			No connection
26	IIC	IN	OUT	
27	LENS (G)			GND for LENS
28	LD TG	IN	OUT	
29	IIC CLK	IN	OUT	

1-3-2. Recommended 29P Cable

Connection between the CCD unit and cable adaptor during installation or service, should be made with the connectors/complete cable assembly specified in the following list or equivalent parts.

Note

The 29P cable (Sony P/N 1-575-041-13, Outer sheath color: black) supplied with the BVP-T70/T70P cannot be used.

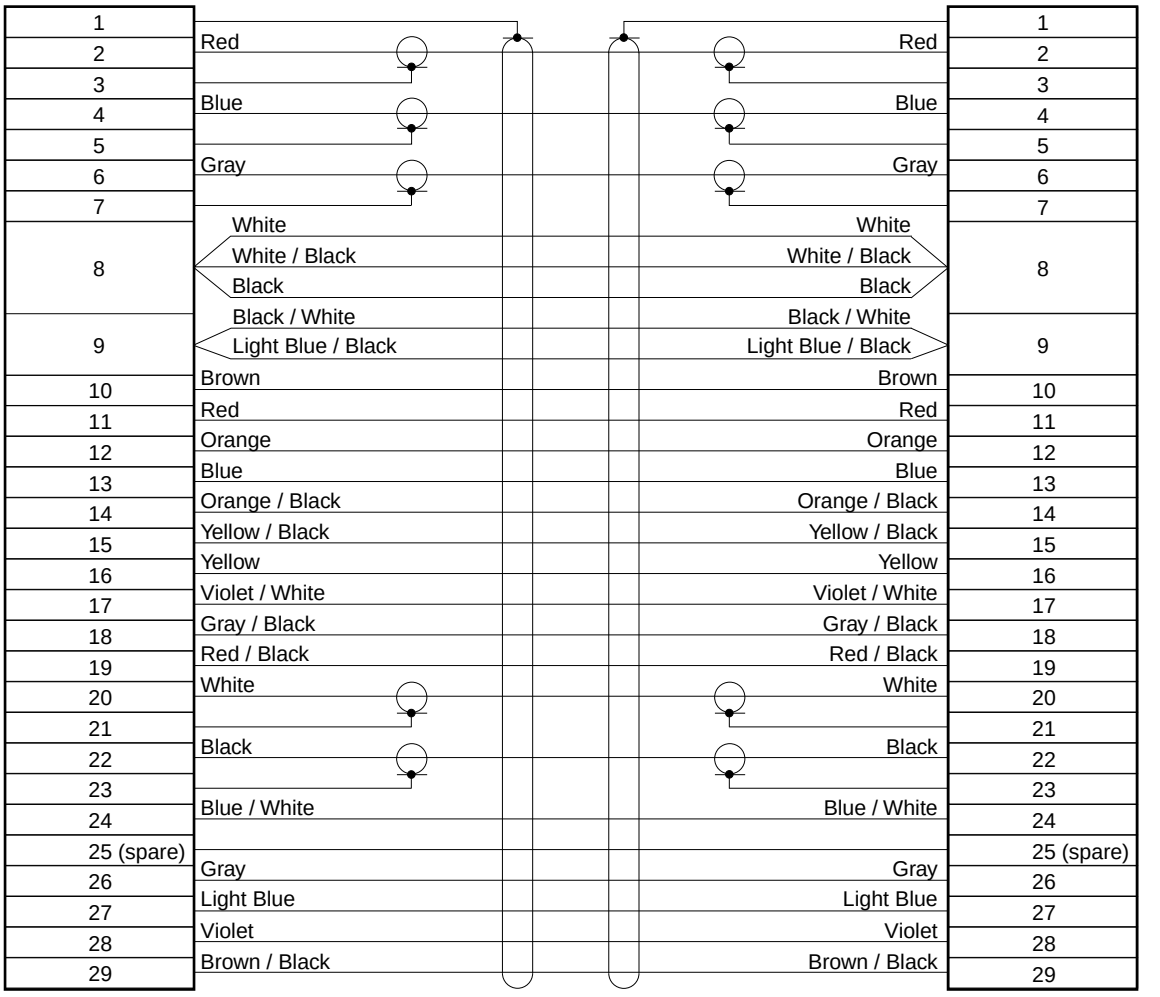
Connection Cable: Sony P/N 1-575-041-21 Cable Assembly (supplied with this unit, 20 m)

Connection Connectors

Connector Name	Sony P/N	Description
OPT HEAD (D-sub 29P, MALE)	1-568-911-11 1-563-910-11 1-563-910-21 3-734-592-01	Connector Housing 29P Contact, Female AWG#22-24 Contact, Female AWG#26-28 CASE, CONNECTOR
CAM BODY (D-sub 29P, FEMALE)	1-568-912-11 1-566-370-11 1-566-370-21 3-734-592-01	Connector Housing 29P Contact, Male AWG#22-24 Contact, Male AWG#26-28 CASE, CONNECTOR

1-3-3. Wiring Diagram for Cables

(Outer sheath color: Gray)



1-4. Alignment after OHB Installation

When a new OHB-T450WS/T450WSP is installed in the BVP-550/550P/570, the following adjustments are required. Perform all the adjustment referring to the following sections of the BVP-550/550P/570 maintenance manual.

Adjustment Items	BVP-550/550P	BVP-570
VCO CONT Frequency Confirmation	4-2-1	4-2
VA Gain Adjustment	4-2-2	4-3
Black Shading Adjustment	4-2-3	4-4
White Shading Adjustment	4-2-4	4-5
Master Black Adjustment	4-2-5	4-6
Gamma Correction Adjustment	4-2-6	4-7
Flare Adjustment	4-2-7	4-8
Knee and White Clip Adjustment	4-2-8	4-9
Crispening Adjustment	4-2-9	4-10
Level Dependent Adjustment	4-2-10	4-11
Detail Frequency Adjustment	4-2-11	4-12
H/V Ratio Adjustment	4-2-12	4-13
Detail Level Adjustment	4-2-13	4-14
Detail Clip Adjustment	4-2-14	4-15
Skin Tone Adjustment	4-2-15	4-16
Zebra Adjustment	4-2-16	4-17
Auto Iris Adjustment	4-2-17	4-18
Menu Settings After Finishing Adjustment	4-2-18	4-19
File Store	4-2-19	4-20

1-5. Selecting 36 dB Master Gain

You can normally select up to 30 dB for each gain value corresponding to the L, M and H position of the GAIN selector of the camera. By changing the setting as follows using the setup menu, you can select up to 36 dB. (You can also select from the MSU or RCP.)
For the setup menu operation, refer to the BVP-550/550P/570 maintenance manual, Section 3 “Setup Menu”.

MENU: System Config
PAGE: Others2
W Gain: Off ⇨ On

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1-6. 16:9/4:3 Selector Board

The PR-212 board and PR-243 board are 16:9/4:3 selector boards. The PR-212 board is supplied with the unit and the PR-243 board is separately available as a BKP-5091.
When installing the unit in your own camera, replace the termination board (CN-1142/1672) on the processing board (PR-211/242) with this 16:9/4:3 selector board (PR-212/243).
For details on installation, refer to the installation manual supplied with the unit or the BKP-5091.
The relationships between the above-mentioned boards are shown below.
The PR-211 or PR-242 board should be provided with the 16:9/4:3 selector board. If not, normal video will not appear.

Note

Use only in the following combinations.

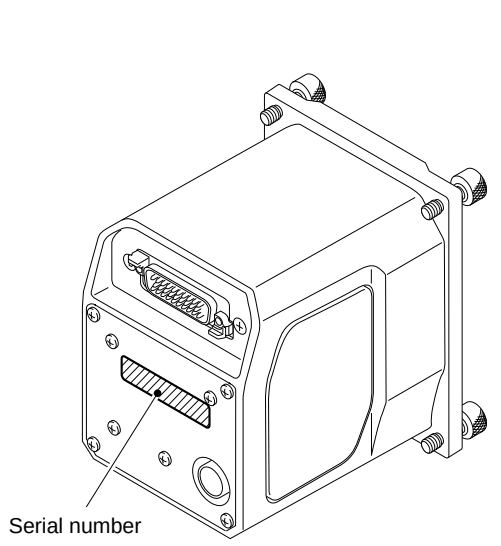
Camera	Processing board	16:9 /4:3 selector board
BVP-550/550P	PR-211	PR-212 ∗1
BVP-550/550P (12-bit DSP ∗2)	PR-242	PR-243 ∗3
BVP-570	PR-242	PR-243 ∗3

∗1 : Supplied with the unit
∗2 : Upgraded by the BKP-5090
∗3 : BKP-5091(separately available)

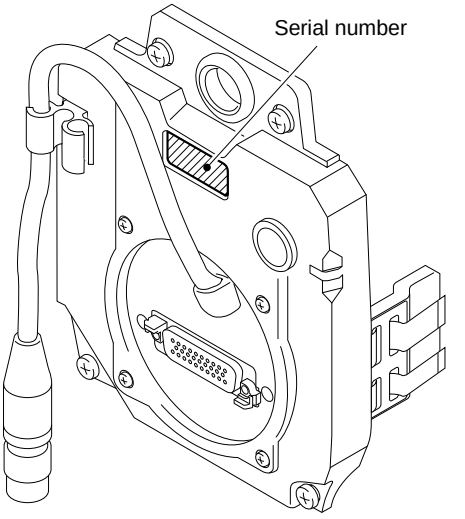
Section 2
Service Overview

2-1. Note on Service

The unit consists of the CCD unit and the cable adaptor to be attached to the camera.
The holding data inherent in the CCD is stored in the ROM-27 board of the cable adaptor. If repairing or checking the OHB-T450WS/T450WSP are required, be sure to use the CCD unit and cable adaptor with the same serial number together.



〈 CCD unit side 〉



〈 Cable adaptor side 〉

2-2. Circuit Description

CCD Unit Side

BI-91(R)/(G)/(B) board

The BI-91(R)/(G)/(B) board supplies the DC bias required for the CCD. The CCD output is sent through a buffer to the PA-214 board.

CN-1633 board

The CN-1633 board is the relay board that supplies each CCD driving pulse generated on the DR-362 board to the BI-91(R)/(G)/(B) board. The CN-1633 board also mounts horizontal clock drivers for CCD.

DR-362 board

The DR-362 board mounts vertical clock drivers for CCD driving and a reset gate driver. Moreover, the DR-362 board generates the V-sub voltage and the bias of reset gate pulse (RG) proper to CCD and supplies them to the CCD. On the DR-362 board, the information of filter position is converted into a voltage and sent to the camera.
The voltage produced using a DC/DC converter is sent through this board to each board.

TG-198N/198P board

The TG-198N/198P board generates clock pulses and PLL-locks them with the sync signal sent from the camera to generate each CCD driving pulse or sample-and-hold pulse. These pulses are sent to the DR-362 and PA-214 boards. The sync signal input to the PLL circuit is received by a differential amplifier so as to prevent the phase unlock caused by relative fluctuations in a GND line on due to external noises with respect to the CHU.

PA-214 board

The PA-214 board performs correlative double sampling so as to extract a noise-less signal component from the CCD output.

IF-707 board

The IF-707 board has a 29P D-SUB connector and interfaces with the camera body. The R/G/B signals input from the PA-214 board are adjusted in an output level and sent to a 29P cable via a 75 Ω driver. The command data sent from the camera is level-converted using a buffer on the IF-707 board and sent to the TG-198N/198P board.
The malfunction of a lens iris caused by fluctuations in a GND line may occur during lens driving. The IF-707 board also mounts a circuit that prevents the malfunction from occurrence.

Cable Adaptor Side

IF-708N/708P board

The IF-708N/708P board interfaces with the camera body (via a 20P flat cable, 24P flat cable, harness, and lens harness) and 29P D-SUB connector. The IF-708N/708P board also generates a master clock and supplies it to the camera body. The IF-708N/708P board mounts an OHB GND potential fluctuation canceller to take measures against the display error in the filter position. The memory sub-board (ROM-27) that stores the data inherent in the CCD is mounted on the IF-708N/708P board. Moreover, the IF-708N/708P board mounts the phase adjustment PLL circuit of the OHB output so as to correct it automatically when a phase shift occurred depending on the cable used.

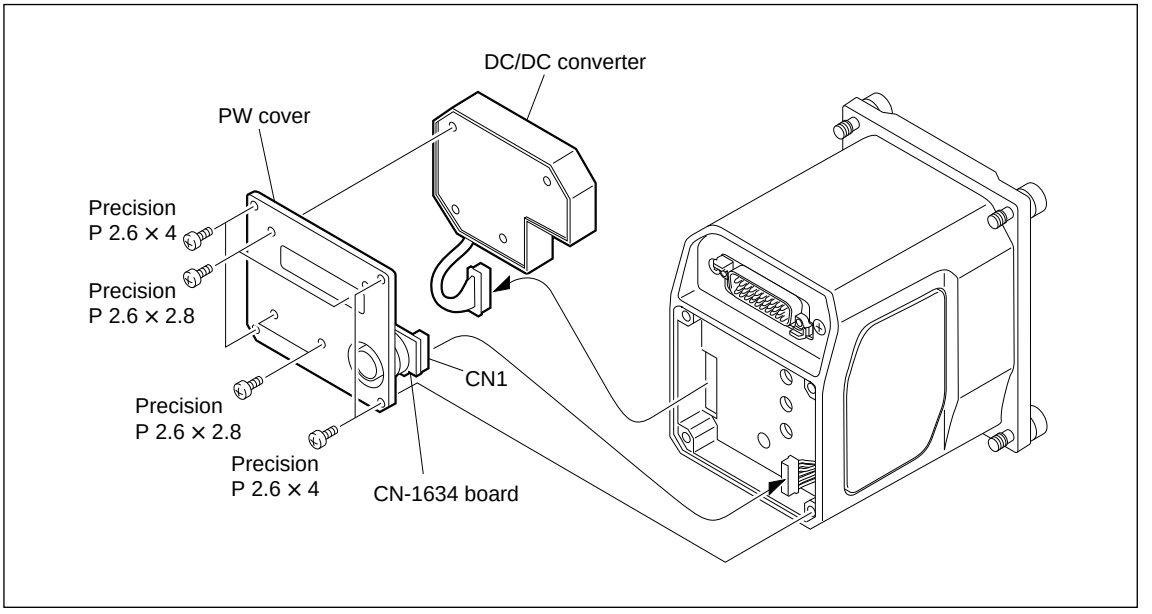
2-3. Standard Tightening Torque for Screws

The standard tightening torque for the screws used in the unit are as follows.

Screw type	Tightening torque
M2	19×10^{-2} N•m (1.9 kgf•cm)
M2.6	53×10^{-2} N•m (5.3 kgf•cm)
M2.6 (Precision)	40×10^{-2} N•m (4 kgf•cm)
M3	80×10^{-2} N•m (8 kgf•cm)
M4	140×10^{-2} N•m (14 kgf•cm)

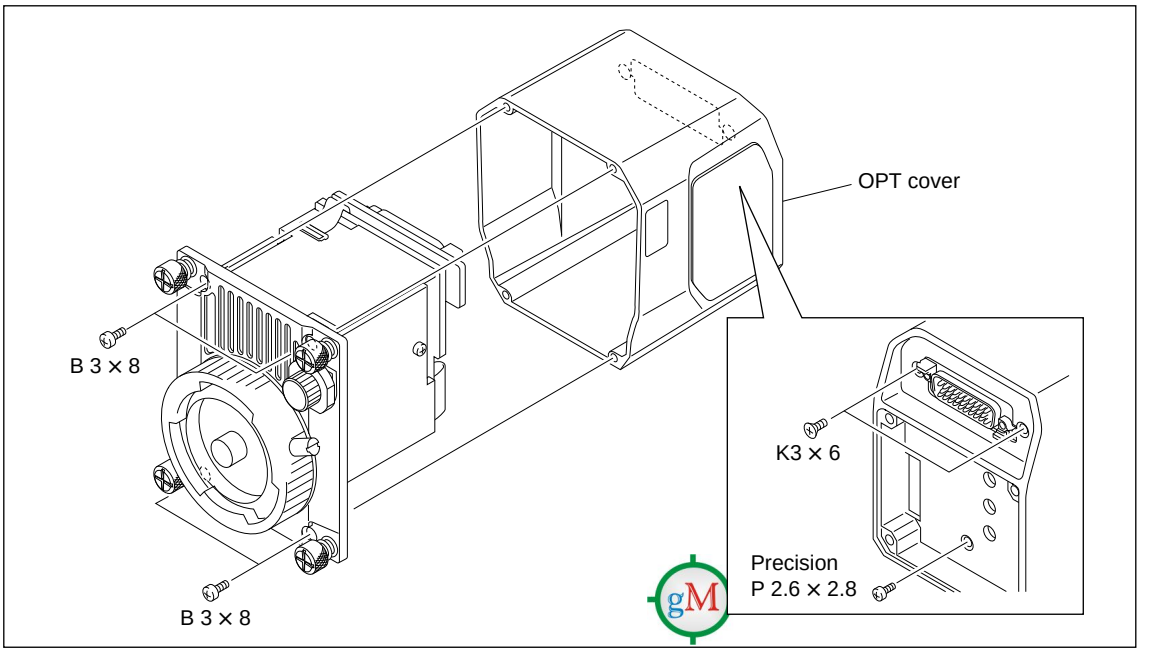
2-4. Replacing the DC/DC Converter

1. Remove the four screws (Precision P2.6 × 4) securing the PW cover.
2. Disconnect the connector (CN1) on the CN-1634 board and the harness extending from the DC/DC converter.
3. Remove the four screws (Precision P2.6 × 2.8) securing the DC/DC converter.
4. Install a new DC/DC converter in the reverse order of removal.



2-5. Removing/Attaching the OPT Cover

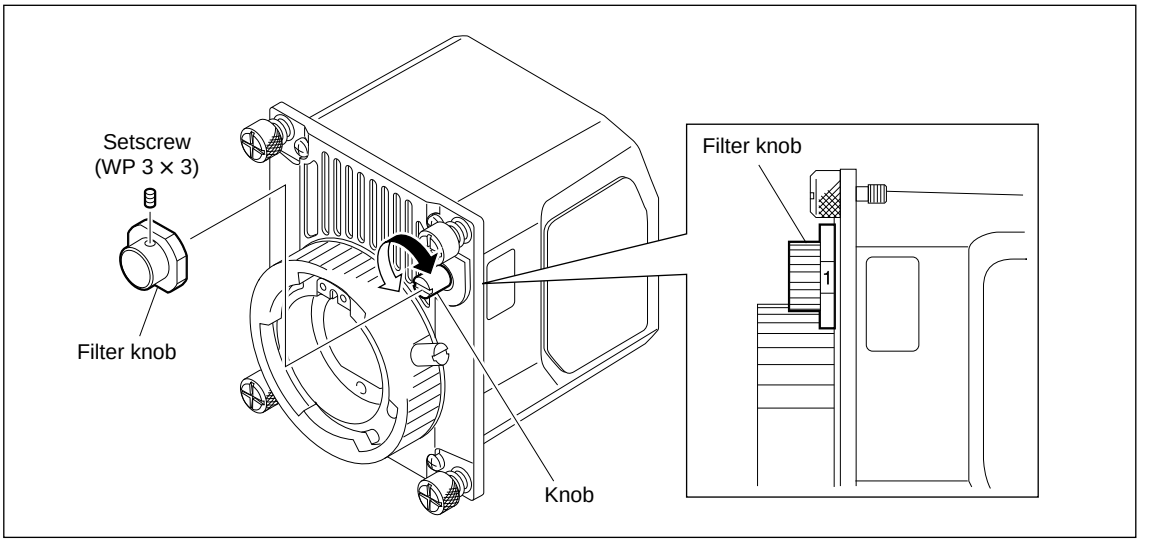
1. Perform steps 1 and 2 in Section 2-4 “Replacing the DC/DC Converter” to remove the PW cover.
2. Remove the two screws (K3 × 6) and the screw (Precision P2.6 × 2.8) from the back of the CCD unit.
3. Remove the four screws (B3 × 8).
4. Attach in the reverse order of removal.



2-6. Positioning Adjustment for Filter Knob

When installing the filter knob, be sure to perform the following adjustment.

1. Rotate the knob shaft until the filter with the lightest color can be seen from the lens mount.
2. Position the filter knob number 1 as shown in the figure and tighten it with a setscrew (WP3 × 3).
   Tightening torque: 2×10^{-2} N•m (2.0 kgf•cm)
3. Rotate the filter knob and check that it moves smoothly.



2-7. Description on Flexible Card Wire

2-7-1. Disconnecting/Connecting the Flexible Card Wire

The flexible card wires are used between the TG-198N/198P board and the IF-707 board, BI-91(R)/(G)/(B) board and the CN-1633 board, and the IF-708N/708P board and the relay board of the camera side. Be careful not to bend these wires. This shortens the wire life.

Disconnecting

1. Turn off the power of the camera.

Type A (between the TG-198N/198P board and the IF-707 board, and the IF-708N/708P board and the relay board of the camera side)

2. Lift up the portion A in the direction of the arrow and disconnect the flexible card wire.

Type B (between the BI-91(R)/(G)/(B) board and the CN-1633 board)

2. Slide portion B in the direction of the arrow and disconnect the flexible card wire.

Connecting

Notes

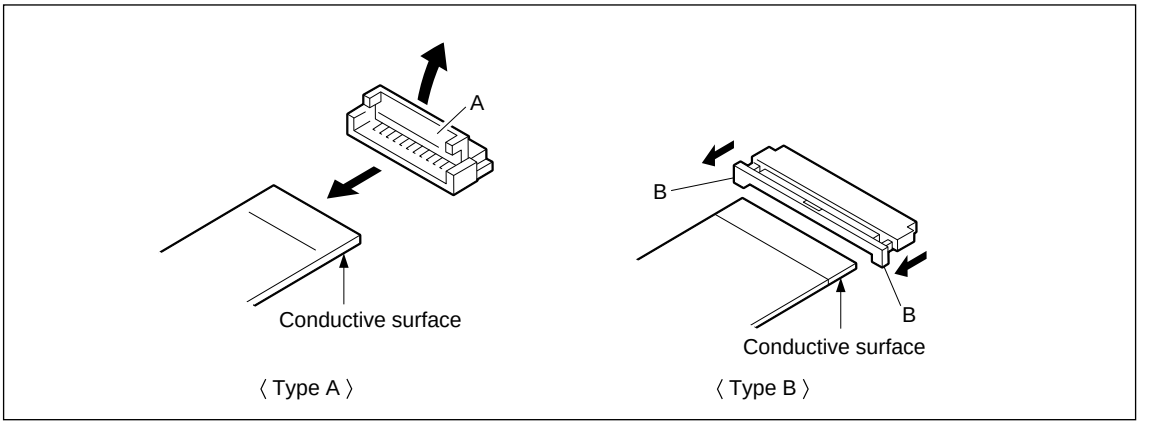
- Be careful not to insert the flexible card wires obliquely.
- Check that the conductive surface of the flexible card wire is not soiled with dust.

Type A

1. Lift up the portion A in the direction of the arrow. Insert the flexible card wire as far as it will go into connector with the conductive surface of the wire put down.
2. Push down the portion A to secure the flexible card wire.

Type B

1. Slide portion B in the direction of the arrow and insert the flexible card wire as far as it will go into connector with the conductive surface of the wire put down.
2. Slide portion B in the opposite direction of the arrow and lock each connector.

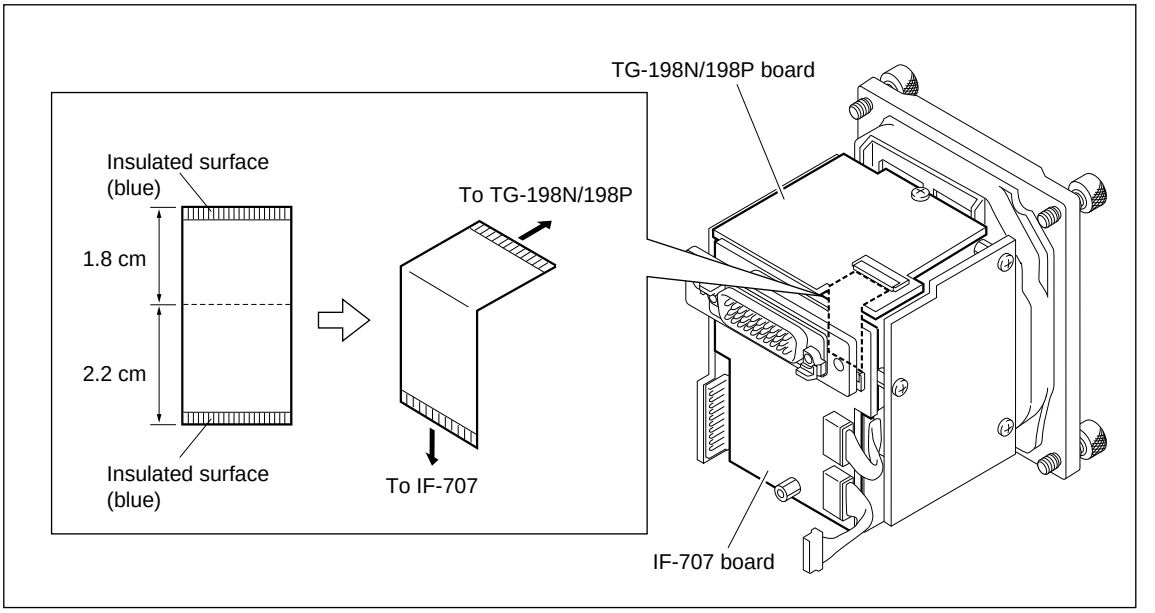


2-7-2. Forming Before Installation

If using a new flexible card wire between TG-198N/198P board and IF-707, be sure to hand-form it lightly as shown in the figure before installation.

Note

Never fold it back after being formed once.



2-8. Replacing the Printed Wiring Board

2-8-1. Adjusting Items Required After Replacing the Board

If no adjustment item is listed, no adjustment is required after replacement.

Board	Adjustment required
BC-30	———
BI-91	———
CN-1633	———
DR-362	———
IF-707	3-2. Gain Adjustment (IF-707 Board)
IF-708N/708P	———
PA-214	After replacing the PA-214 board or the variable resistor on the board, adjustment is required As for how to adjust, contact your local Sony Sales Office/Service Center
ROM-27	———
TG-198N/198P	———

2-8-2. Removing/Installing the Boards

CCD Unit Side

Notes

- Prior to removing, remove the OPT cover referring to Section 2-5.
- Refer to Section 2-7-1 before disconnecting/connecting the flexible card wire.

PA-214 board

(1) Remove the three screws (B2.6 × 4).
(2) Disconnect the five connectors (CN1, CN2, CN3, CN4, CN5).
(3) Install in the reverse order of removal.

IF-707 board

(1) Remove the step screw.
(2) Disconnect the flexible card wire (CN3). Disconnect the connector (CN2).
(3) Install in the reverse order of removal.

DR-362 board

(1) Remove the three screws (B2.6 × 4). Disconnect the three connectors (CN1, CN2, CN5).
(2) Install in the reverse order of removal.

BC-30 board

(1) Remove the PA-214 board and the shielding plate[*2].
(2) Remove the two supports and screw (B2.6 × 4). Disconnect the connector (CN1).
(3) Install in the reverse order of removal.

CN-1633 board

(1) Remove the DR-362 board.
(2) Disconnect the three flexible card wires (CN2, CN3, CN4).
(3) Remove the four screws (Precision P2 × 4).
(4) Install in the reverse order of removal.

Note

Put the radiation sheet between the CN-1633 board and the prism optical block as shown in the figure.

TG-198N/198P board

(1) Remove the PR-214 and BC-30 boards.
(2) Disconnect the flexible card wire (CN3).
(3) Disconnect the TG-198N/198P board from the connector (CN1) on the DR-362 board.
(4) Install in the reverse order of removal.

Note

Prior to assembling, connect the TG-198N/198P and BC-30 boards. It makes assembling easy.

Cable Adaptor Side

IF-708N/708P board

Refer to Section 2-9-2 “CAM BODY connector”.

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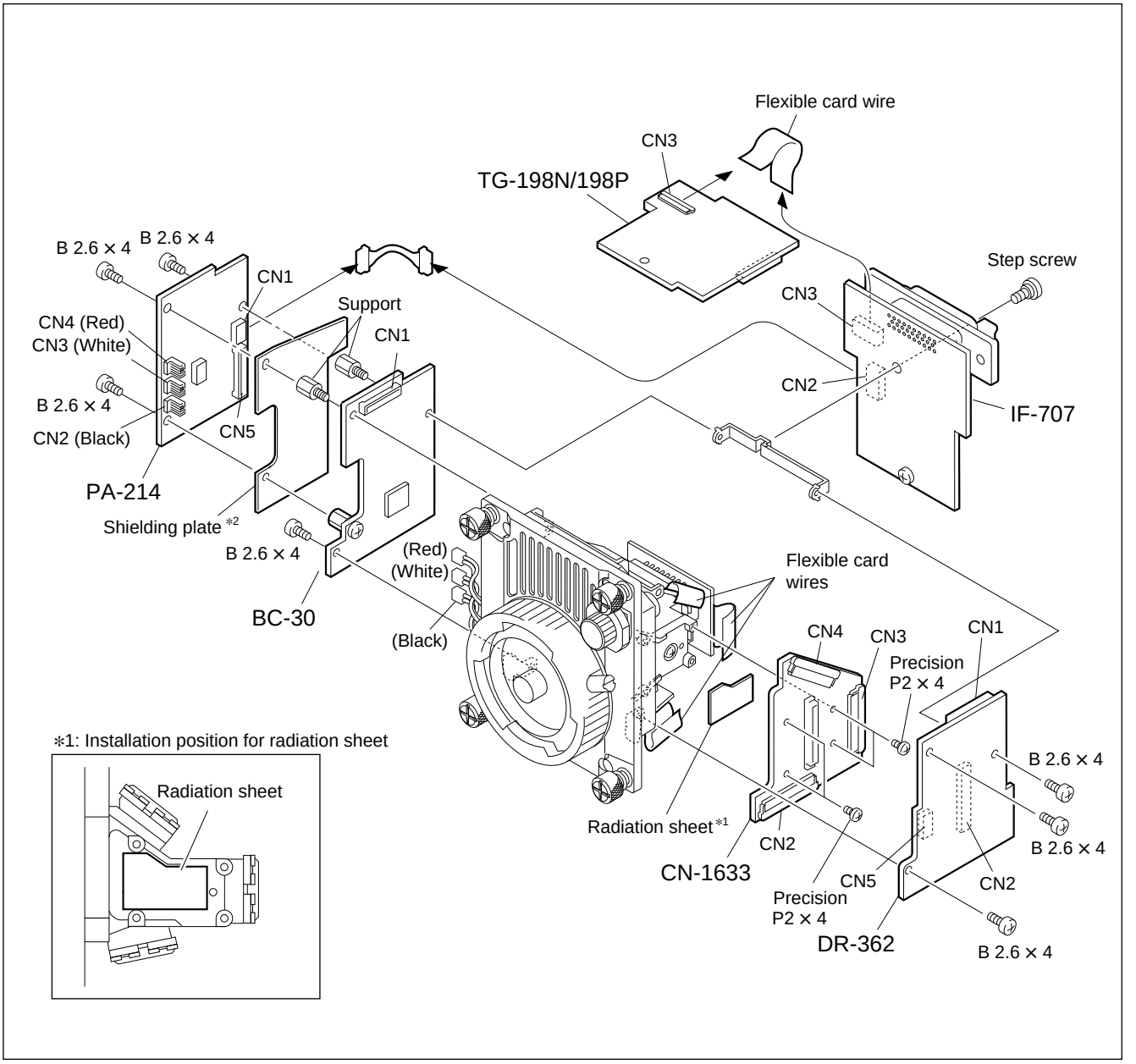


*2: The shielding plate is installed to the unit with the following serial number.
S/N 10031 and Higher : OHB-T450WS (UC)
S/N 40011 and Higher : OHB-T450WSP (CE)

2-8-3. Note in Replacing the BC-30 Board

Every electrical part mounted on the BC-30 board cannot be replaced. If there is any defective part, replace the board itself. When replacing the BC-30 board with a new one, remove the PROM (IS27) on the new board and replace it with the PROM that were mounted on the former BC-30 board.

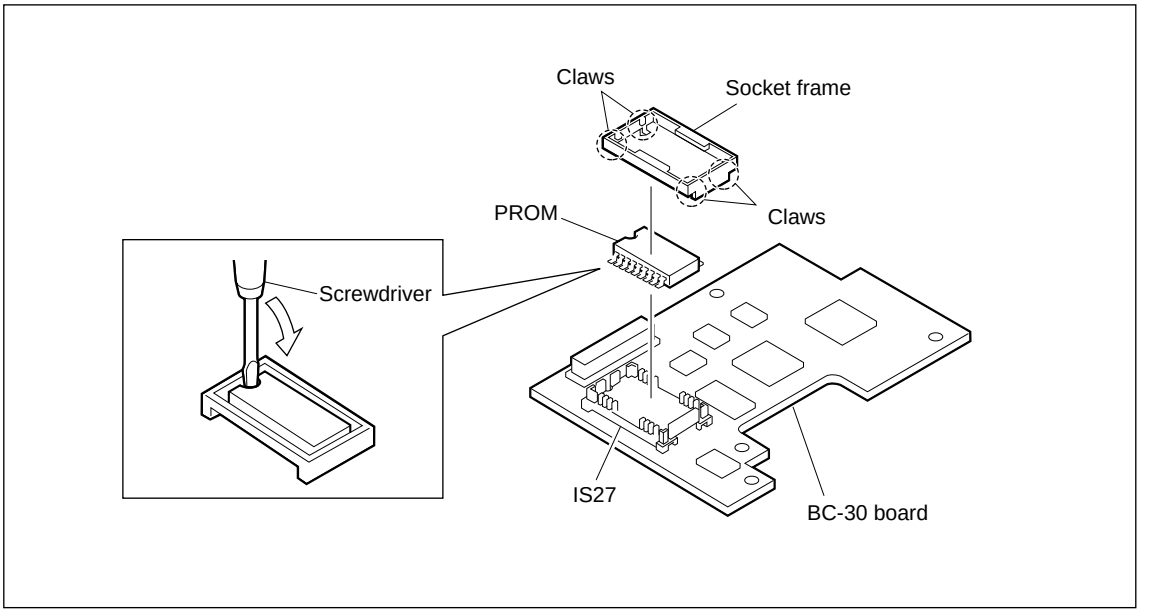
Note in Replacing PROM

To remove the PROM, remove its socket frame.
This socket frame is so fragile. When removing the socket frame, therefore, it is recommended to use a special removing tool listed below. If it is not available, use a small slotted screwdriver or similar item as a substitute for it.
To remove the socket frame by using a screwdriver, proceed as follows.

IC socket removing tool: Sony P/N J-6394-110-A
Socket frame: Sony P/N 1-540-194-12

Removing socket frame (by using a screwdriver)

Insert the screwdriver as shown in the figure and push it lightly in the direction of the arrow to unlock the frame socket.



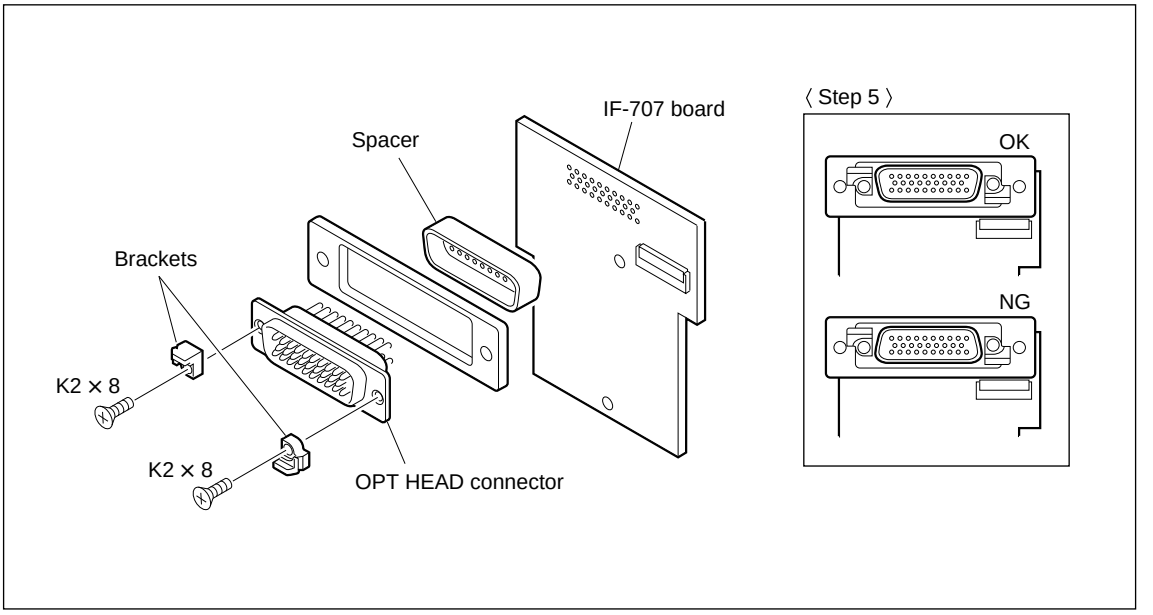
2-9. Replacing the 29P Connector

2-9-1. OPT HEAD Connector

1. Remove the OPT cover referring to Section 2-5.
2. Remove the IF-707 board referring to Section 2-8-2.
3. Remove the two screws (K2 × 8) and brackets.
4. Desolder and Disconnect the OPT HEAD connector.
5. Install a new connector in the reverse order of removal.

Notes at installation

- You can mount this connector with any side up. Also you can put the spacer with any side up or with any side out. Therefore, orient them properly as shown in the figure and install.
- Be sure to lock the two screws (K2 × 8) with a screw locking compound.



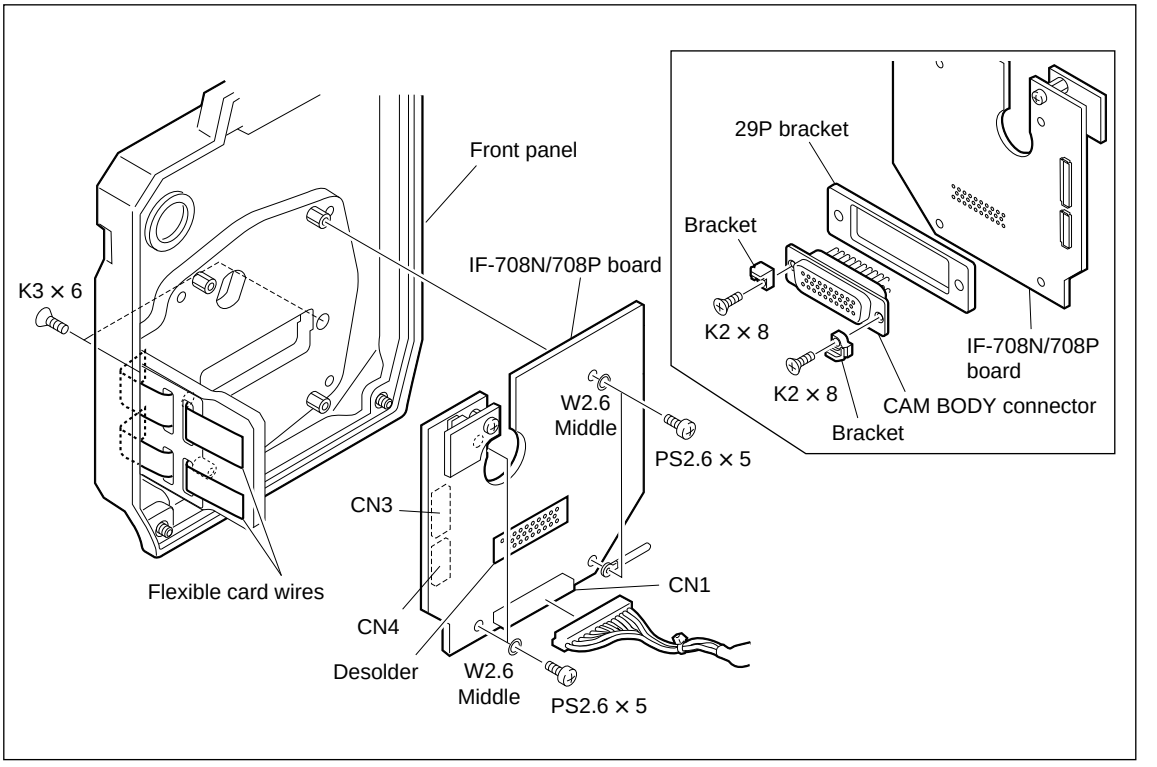
2-9-2. CAM BODY Connector

Removing

1. Remove the cable adaptor from the camera. (Refer to the installation manual.)
2. Remove the two screws (K3 × 6) securing the 29P bracket to the front panel.
3. Remove the four screws (PS2.6 × 5) securing the IF-708N/708P board to the front panel. Disconnect the connector (CN1).
4. Disconnect the two flexible card wires (CN3,CN4) from the IF-708N/708P board. Remove the IF-708N/708P board.

   Note

   Refer to Section 2-7-1 before disconnecting/connecting the flexible card wire.
5. Remove the two screws (K2 × 8) and two brackets. Desolder and disconnect the CAM BODY connector.

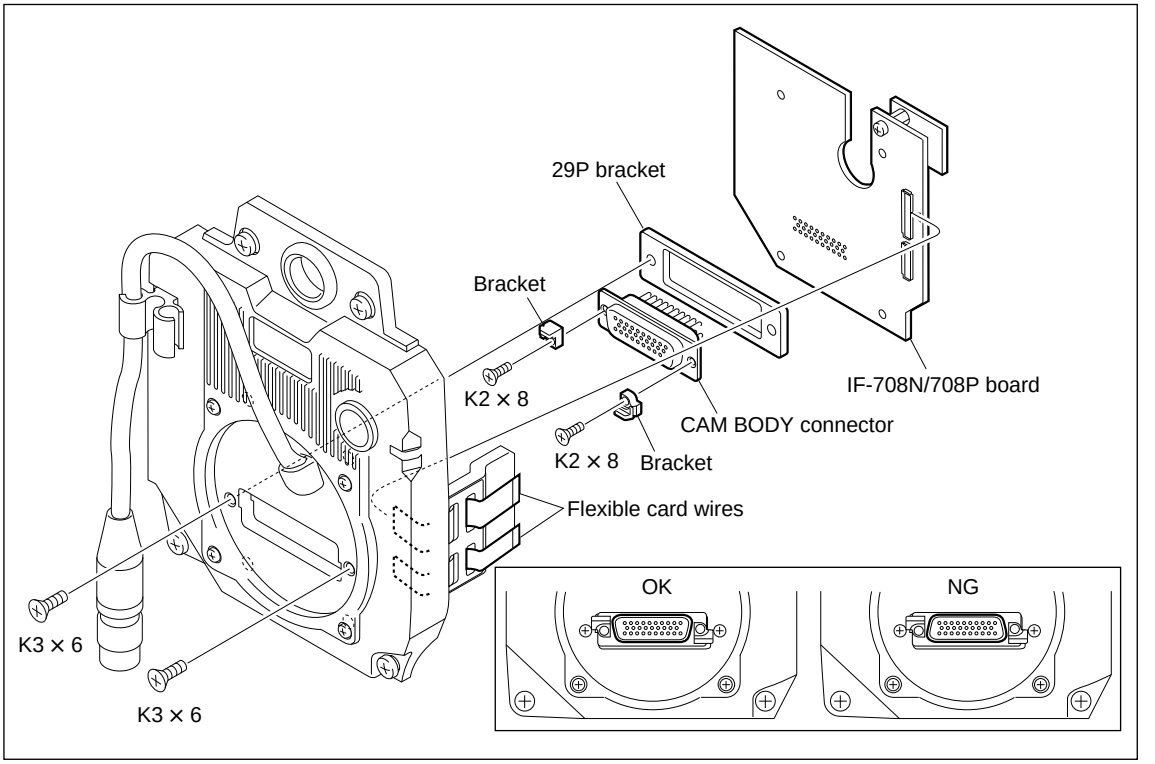


Installing

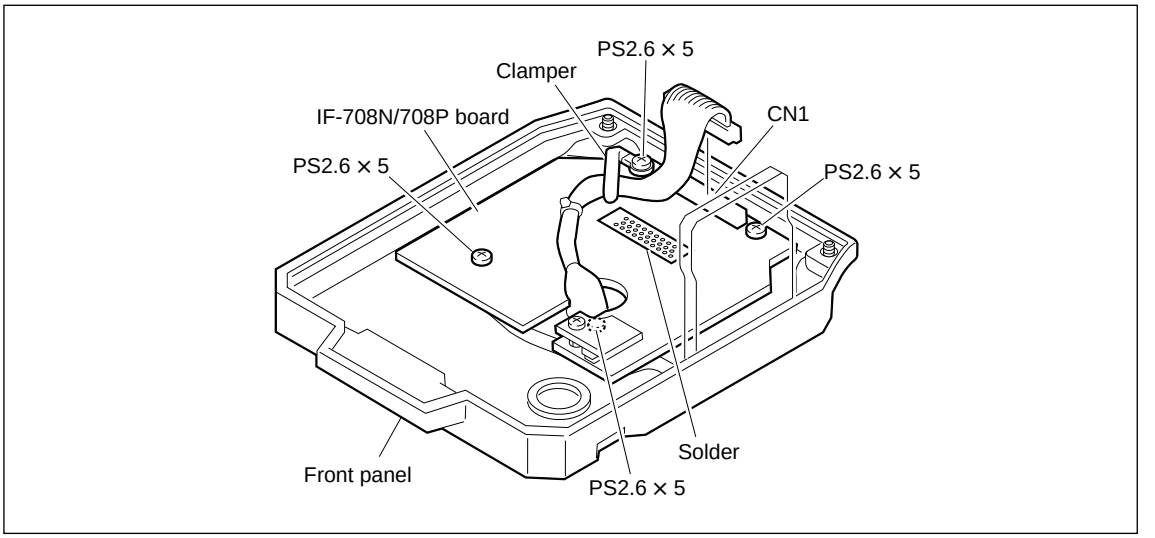
6. Secure the brackets to the CAM BODY connector by the two screws (K2 × 8) and lock the screws with a screw locking compound.
7. Secure the 29P bracket to the front panel by the two screws (K3 × 6) and lock the screws with a screw locking compound.

   Note at installation

   You can mount this connector with any side up. Therefore, orient it properly as shown in the figure and install.
8. Connect the two flexible card wires referring to the Section 2-7-1.

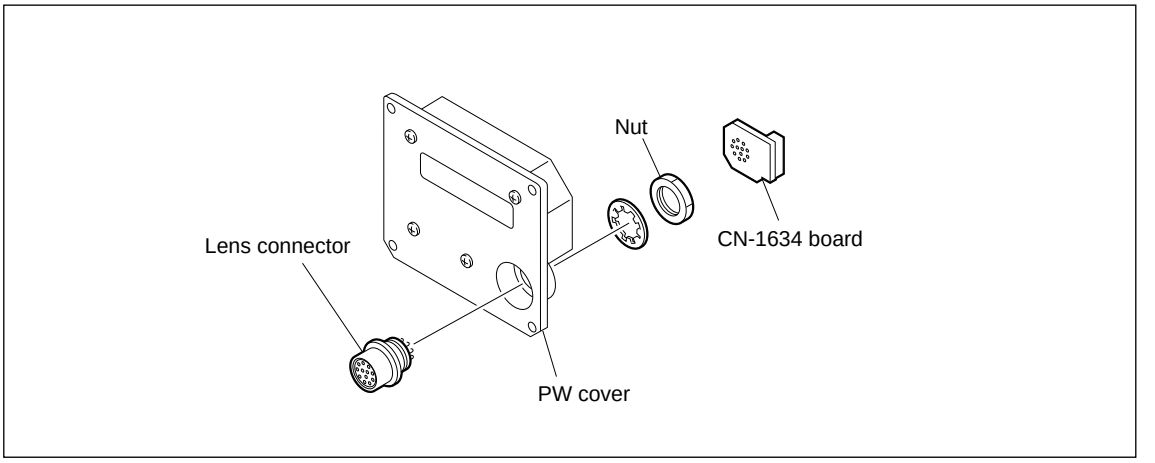


9. Insert the leads of the CAM BODY connector into through holes on the IF-708N/708P board. Secure the IF-708N/708P board to the front panel by the four screws (PS2.6 × 5).
10. Solder the CAM BODY connector to the IF-708N/708P board.
11. Connect the harness to the connector (CN1) and clamp it.



2-10. Replacing the Lens Connector

1. Perform steps 1 and 2 in Section 2-4 “Replacing the DC/DC Converter” to remove the PW cover with the DC/DC converter.
2. Desolder the lens connector to remove the CN-1634 board. Remove the nut securing the lens connector.
3. Install a new connector in the reverse order of removal.
   Note at installation
   Be sure to lock the nut with a screw locking compound after tightened.



2-11. Replacing the Lens Harness

Tools required

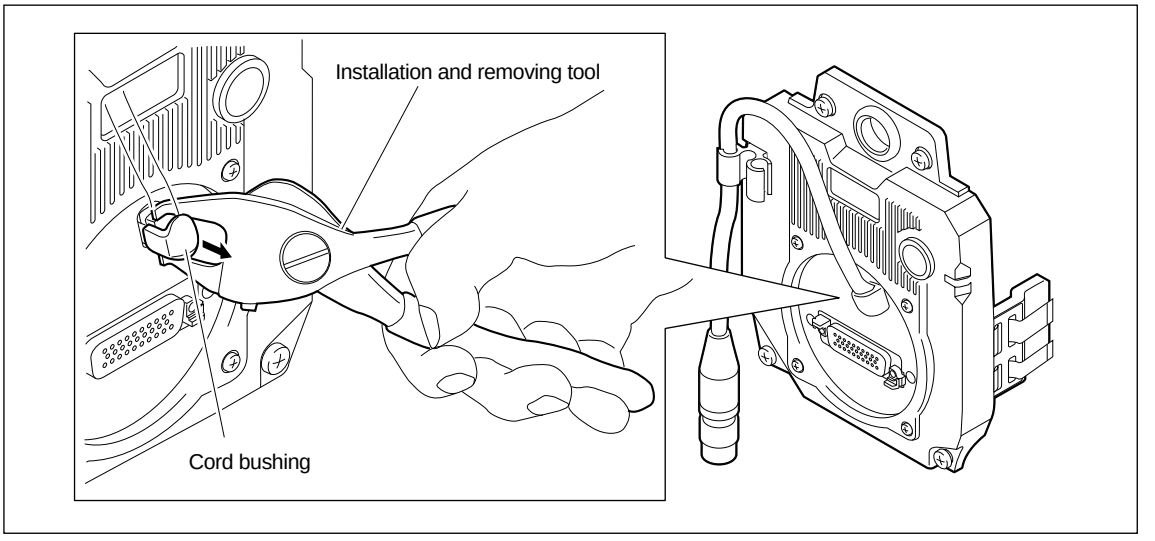
Installation and removal tool (for bushing): Sony P/N J-6470-280-A

Note

If it is not available, use pliers or a similar item.

Removing

1. Perform steps 1 to 4 in Section 2-9-2 “CAM BODY Connector” to remove the IF-708N/708P board.
2. Pinch the cord bushing by the Installation and removal tool as shown in the figure and pull out the cord bushing in the direction of the arrow.

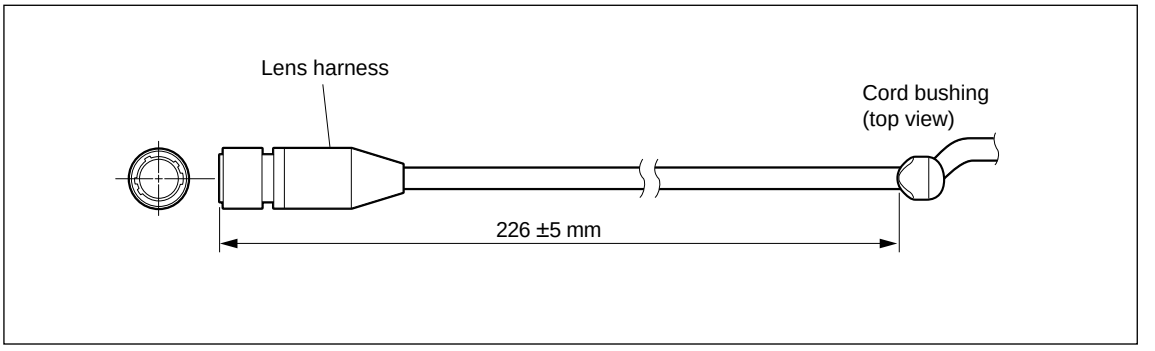


Installing

1. Attach the cord bushing to the lens harness as shown in the figure.

   Note

   When attaching, ensure that the cord bushing is properly positioned and oriented with respect to the lens harness.
2. Attach the cord bushing to the front panel in the reverse order of removal.



3. Install the IF-708N/708P board in the reverse order of removal.

2-12. Description on CCD Unit

2-12-1. Description on CCD Block Number

Every CCD unit has its own ID number called CCD block number. It shows the CCD block type and serial number for the CCD block.
The CCD block number label is put in the CCD unit.

HPAxxxxx
- Serial number for CCD block
- CCD block type
  - HPAxxxxx (NTSC)
  - HQAxxxxx (PAL)

2-12-2. Replacing the CCD Unit

Notes

- When replacing the CCD unit, order the BKPCT450W/BKPCT450WP through a sales channel.
- BKPCT450W/BKPCT450WP come with the ROM-27 board.
  The ROM-27 board has the data inherent in the CCD in it. If replacing the CCD unit, be sure to replace the ROM-27 board at the same time.

1. Replacing the PW Cover

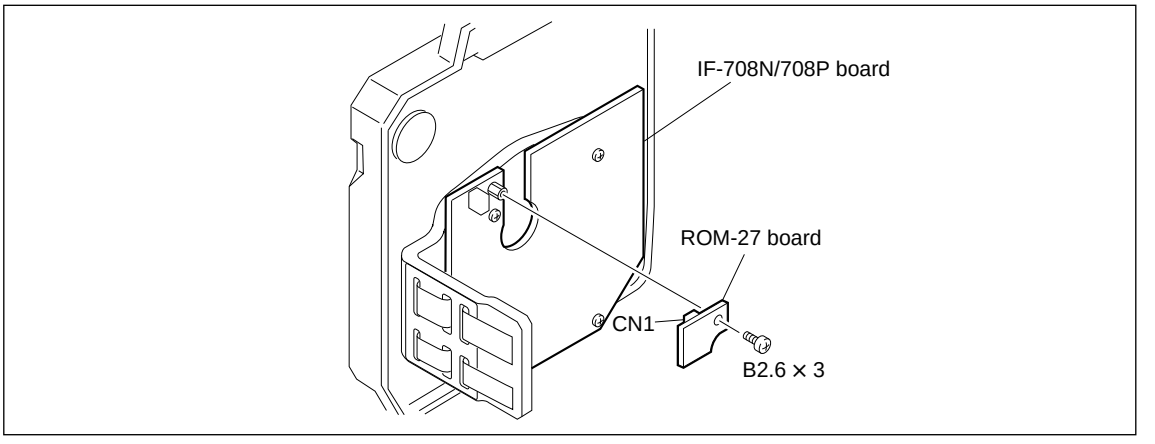
(1) Perform steps 1 and 2 in Section 2-4 “Replacing DC/DC Converter” to remove the PW cover with the DC/DC converter from the CCD unit.
(2) Attach the PW cover that was removed in step (1) to a new CCD unit.

2. Replacing the ROM-27 Board

(1) Remove the cable adaptor from the camera. (Refer to the installation manual.)
(2) Remove the screw (B2.6 × 3) and disconnect the connector (CN1) to remove the ROM-27 board.
(3) Attach a new ROM-27 board by the screw (B2.6 × 3) that was removed in step (2).
(4) Reinstall the cable adaptor to the camera.

3. Adjusting the camera

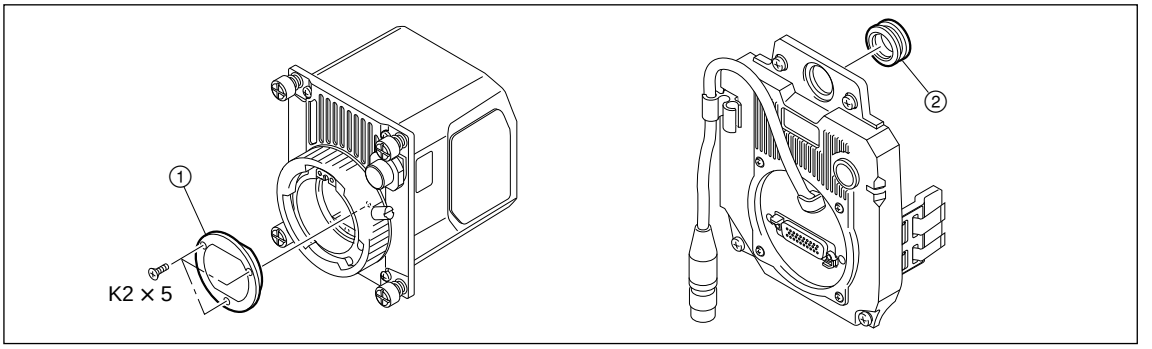
(1) Connect the CCD unit and cable adaptor CCD by the 29P cable.
(2) Perform all the adjustment referring to the BVP-550/550P/570 maintenance manual.
(Refer to Section 1-4 “Alignment after OHB Installation”.)



2-13. Recommended Replacement Parts

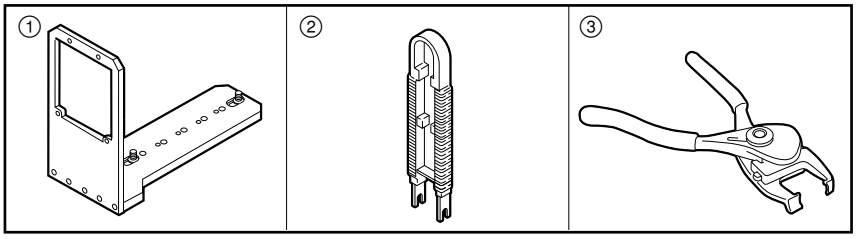
Parts listed below are recommended replacement parts.
Optical filter unit may be turned cloudy with the lapse of time. If using a cloudy filter, the performance of the camera will not be delivered. Replace it according to necessary.
VF packing used in the unit is subject to cracks with the lapse of time. Visually check it sometimes and replace it according to necessary.

Fig.	Description	Sony P/N	Remarks
①	Optical filter unit	1-475-824-11	for OHB-T450WS
	Optical filter unit	1-475-824-21	for OHB-T450WSP
②	VF packing	3-710-024-01	



2-14. Optional Fixtures List

Fig.	Description	Sony P/N	Remarks
①	OHB fixing tool	J-6395-100-A	Used when extending the cable adaptor
——	CN-1504 board	A-8315-489-A	(Refer to Section 2-15)
——	Flexible card wire (20-core)	1-783-854-11	
——	Flexible card wire (24-core)	1-783-855-11	
——	Gray scale chart (transparent)	J-6026-130-B	
——	Pattern box PTB-500	J-6029-140-B	
——	Gray scale chart (reflective)	———	Commercially available (Refer to Section 3-1-3 for details)
——	IF-707 extension harness	J-6470-270-A	Used when checking and repairing the CCD unit (Refer to Section 2-16)
——	Flexible card wire (24-core, 100 mm)	1-775-780-11	
②	IC socket frame removing tool	J-6394-110-A	Used when replacing the PROM (Refer to Section 2-8-3)
③	Installation tool for bushing	J-6470-280-A	Used when replacing the lens harness (Refer to Section 2-11)



2-15. Extending the Cable Adaptor

The following tools are separately available to extend the cable adaptor when wanting to check the IF-708N/708P board. Proceed as follows.

Note

The OHB fixing tool with a camera installed can be mounted on a tripod with an 1/4-inch or 3/8-inch screw.

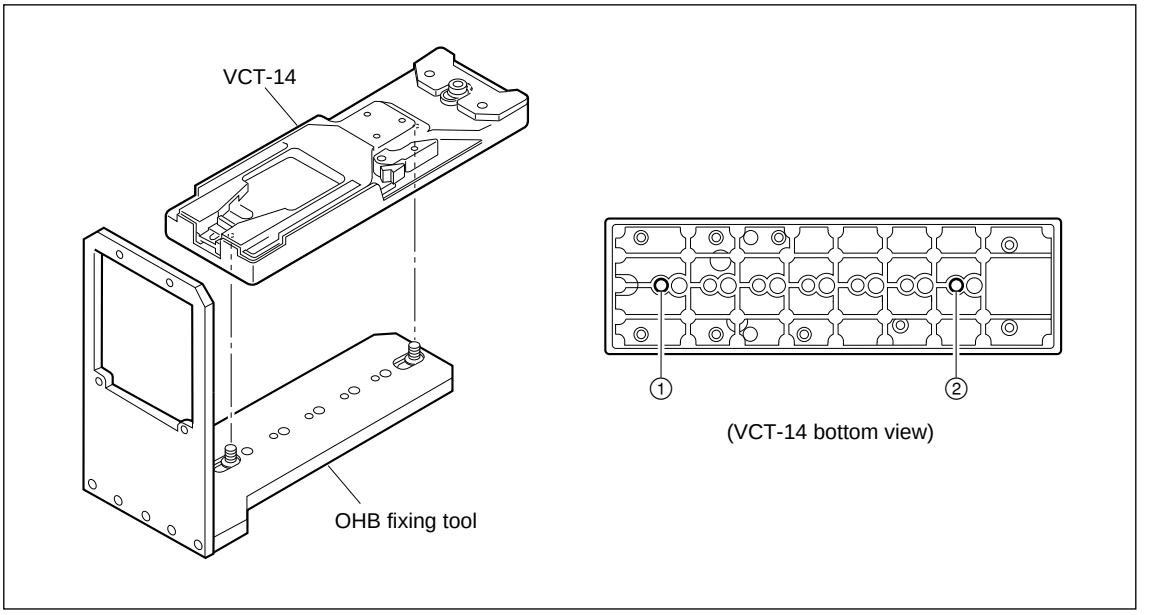
Tools required

OHB fixing tool:	Sony P/N J-6395-100-A
CN-1504 board:	Sony P/N A-8315-489-A
Flexible card wire (20-core):	Sony P/N 1-783-854-11
Flexible card wire (24-core):	Sony P/N 1-783-855-11

1. Install a tripod adaptor VCT-14 on the OHB fixing tool with the two screws, using the supplied allen wrench (width across flats: 3/16-inch).

   Note

   Tighten in order of ① ⇨ ②.



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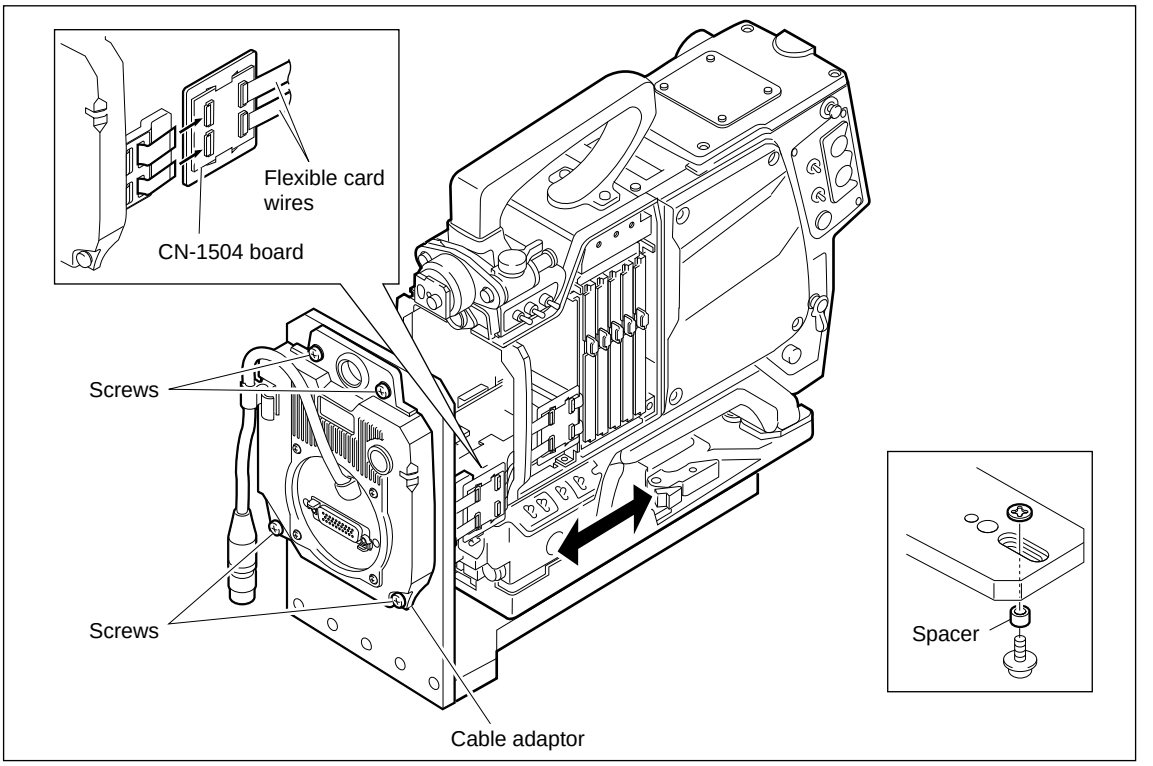
2. Remove the cable adaptor from the camera and secure the cable adaptor to the OHB fixing tool with the four screws.
3. Attach the camera to the tripod adaptor.
4. Extend the cable adaptor using the CN-1504 board and flexible card wires (20-core, 24-core one each)

Notes

- The tripod adaptor can slide to and fro. Align to a proper position.
- If removing the spacer shown in the figure, you can fix the tripod adaptor to the OHB fixing tool. In this case, the tripod adaptor can not slide.



5. Connect the CCD unit and cable adaptor by the 29P cable.

2-16. Checking/Repairing the CCD Unit

The following tools are separately available to check or repair each board in the CCD unit or check the backside of the IF-707 board. Proceed as follows.

Tools required

IF-707 extension harness: Sony P/N J-6470-270-A
Flexible card wire (24-core, 100 mm): Sony P/N 1-775-780-11

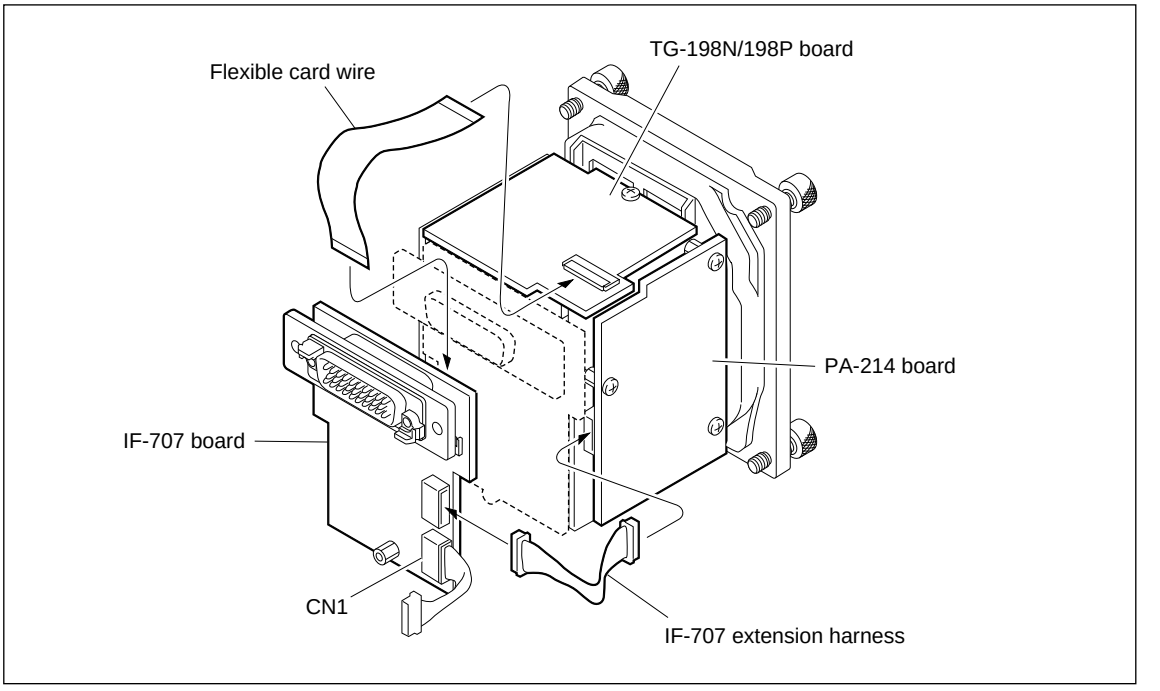
1. Remove the OPT cover from the CCD unit. (Refer to Section 2-5)
2. Remove the IF-707 board. (Refer to Section 2-8-2)
3. Disconnect the flexible card wire between IF-707 board and TG-198N/198P board, and the harness between the IF-707 board and PA-214 board. Reconnect between them using the 100 mm-long flexible card wire and IF-707 extension harness.

   Note

   Refer to Section 2-7-1 before disconnecting/connecting the flexible card wire.
4. Connect the DC/DC converter unit to the DR-362 board. (Refer to Section 2-4.)
5. Connect the CCD unit and cable adaptor (camera side) by the 29P cable.

Notes

- To avoid short-circuiting during checking or repairing, extreme care should be taken that IF-707 board does not touch to the other boards and sheet metals.
- The harness connected to CN1 on the IF-707 board is used for the interface to the lens connector. When checking or repairing the CCD unit, there is no harm in leaving the harness disconnected.



2-17. Notes on Spare Parts

1. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.
Parts list has the present standardized repair parts.

2. Stock of Parts

Parts marked with “o” at SP(Supply Code) column of the spare parts list may be not stocked. Therefore, the delivery date will be delayed.

3. Units Representation

The following represented units are changed or omitted in writing.

Units		Representation
Capacitance	μF	uF
Inductance	μH	uH
Resistance	Ω	Abbreviation
Temperature	°C	XXX-DEG-C

4. Destination Representation

The part indicated “For UC/J/CE” in the spare parts list is used in the unit written below.
For J: The part is used in a unit for Japan.
For UC: The part is used in a unit for U.S.A. and Canada.
For CE: The part is used in a unit for regions except the above countries.

Section 3
Electrical Alignment

3-1. Preparation

3-1-1. Equipment Required

Fixtures

- Grayscale Chart (reflective): Commercially available (Refer to Section 3-1-3 for details.)

or

- Pattern Box PTB-500 (Power supply: AC 90 to 240 V): Sony Part No. J-6029-140-B
- Grayscale Chart (transparent): Sony Part No. J-6026-130-B

Measuring Equipment

- Oscilloscope: Tektronix 2465B or equivalent
- Waveform monitor: Tektronix 1780 or equivalent (for NTSC)
  Tektronix 1781 or equivalent (for PAL)
- Color Monitor: Sony BVM series

Peripheral Equipment

- Color Video Camera: BVP-550/570 series*1
- Camera Adaptor: CA-530/550/570 series
- AC Adaptor: AC-550/550CE

*1 : The OHB with the serial number 10001 through 10090 or 40001 through 40040, requires additional adjustments described in separately available manual.
For details, see to Section “1-1-1. Note on OHB Installation”.

3-1-2. Note on Adjustment

- Never change the setting of the following variable resistors. These are extremely difficult to adjust in the field.
  PA-214 board: ⊘RV1, ⊘RV3, ⊘RV4, ⊘RV6, ⊘RV7, ⊘RV9
- When performing the adjustment, be sure to use the CCD unit and cable adaptor with the same serial number together.
- Alignment for camera and camera adaptor shall be completed.
- Measuring equipment shall be calibrated.
- Adjustment uses the setup menu of the camera. For details on operation, refer to the maintenance manual supplied with the unit.

3-1-3. Maintaining the Grayscale Chart

For the gain adjustment (IF-707 board), using an 89.9 %-reflective grayscale chart is preferable.
If a reflective chart is not available, use a well-maintained pattern box and a transparent grayscale chart for adjustment.
Before beginning adjustment, set the illumination of the light source (or the luminous intensity on the chart surface) properly proceeding as follows and set the color temperature to 3200 K exactly by adjusting light.

Information on the reflective grayscale chart

Recommended chart

The reflective grayscale chart is commercially available.

Recommended chart: Reflective grayscale chart (with a special case)
MURAKAMI COLOR RESEARCH LABORATORY GS-3
or equivalent

Supplier: MURAKAMI COLOR RESEARCH LABORATORY
Address: 3-11-3, Kachidoki, Chuo-ku, Tokyo, JAPAN
Postcode 104-0054
Phone: 81-3-3532-3011
Fax: 81-3-3532-2056

Handling precautions

- Do not touch the chart's surface.
- Do not subject the surface to dirt, scratches or prolonged exposure to sunlight.
- Protect the chart from excess moisture and harmful gas.
- Avoid resting articles against the case.
- Open the case and dry the chart more an hour for a month in no use long period.

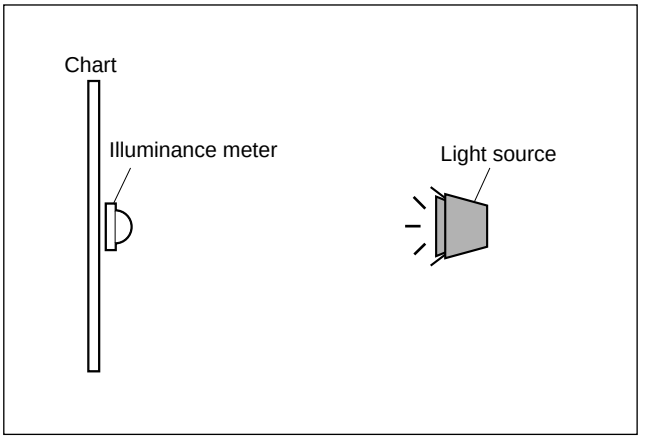
Replacement period when the chart is used as the reference

The reflective grayscale chart should be replaced every two years if it used as the reference. Because the chart deteriorates with time and proper adjustment cannot be achieved.
Replacement period varies according to storage conditions of the chart.

Setting illumination (when the reflective chart is used)

Equipment: Illuminance meter (Calibrated)

1. Turn on the light source and warm up for about 30 minutes.
2. Place the illuminance meter on the chart surface. Adjust the position and angle of the light source so that the whole surface of the chart is evenly 2000 lx.
   Note
   Light the chart from almost the same direction and height as the camera to shoot the chart.



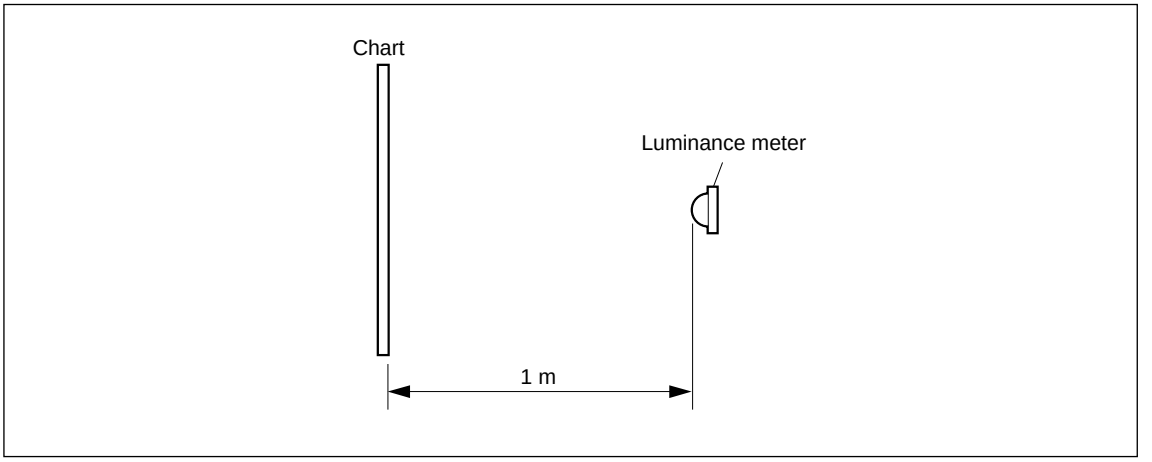
Setting luminous intensity (when the transparent chart is used)

Equipment: Luminance meter (Minolta LS-110 or equivalent. Calibrated.)

1. Light the pattern box and warm up for about 30 minutes.
2. Place the pattern box where the chart is not exposed to light, such as a darkroom.
   (Or cover the pattern box with a cover whose inside is painted in black.)
3. Place the luminance meter facing straight to the chart at a distance of 1 m from it.
4. Adjust the luminance control of the pattern box so that the white portion in the center of the chart is 573 ± 6 cd/m^2.

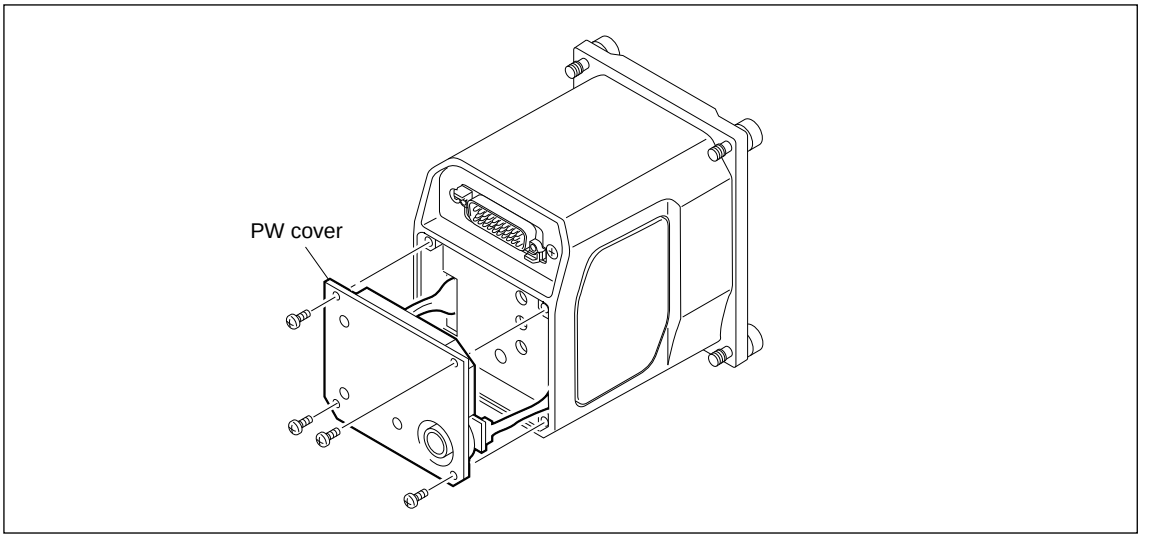
   Note

   This corresponds to the luminous intensity on the 89.9 %-reflective chart at 2000 lx.



3-1-4. Preparations

1. Remove the four screws securing the PW cover.



2. Install the cable adaptor to the camera.
3. Connect between the camera adaptor and CCD unit using the supplied 29P cable.
4. Attach the lens to the CCD unit.
5. Supply power to the camera adaptor via the DC IN connector from the AC adaptor.

3-2. Gain Adjustment (IF-707 Board)

Equipment: Waveform monitor
Test Point: TEST OUT connector (Camera)
Object: Grayscale Chart

Preparations

Setting for Camera

- Connect the waveform monitor to the TEST OUT connector.
- WHITE BAL switch (on the side of camera) ⇨ PRST
- ENC/RGB switch (on the side of camera) ⇨ ENC
- Set the setup menu as follows.
  MENU: Maintenance
  PAGE: Black Shading
  ITEM: Master Gain ⇨ 0 dB
- Len Iris: Close

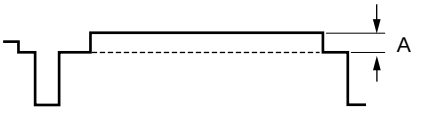
Procedures

1. Throw the AUTO W/B BAL switch (at the front of the camera) to “BLK” to start the black balance adjustment.

2. ENC/RGB switch (on the side of camera) ⇨ RGB

3. R/G/B switch (on the side of camera) ⇨ G

4. Adjust the master black using the setup menu.
   MENU: Maintenance
   PAGE: Black Shading
   ITEM: Black (M)
   Specification: A = 3 IRE (for NTSC)
   A = 35 mV (for PAL)



(Waveform monitor)

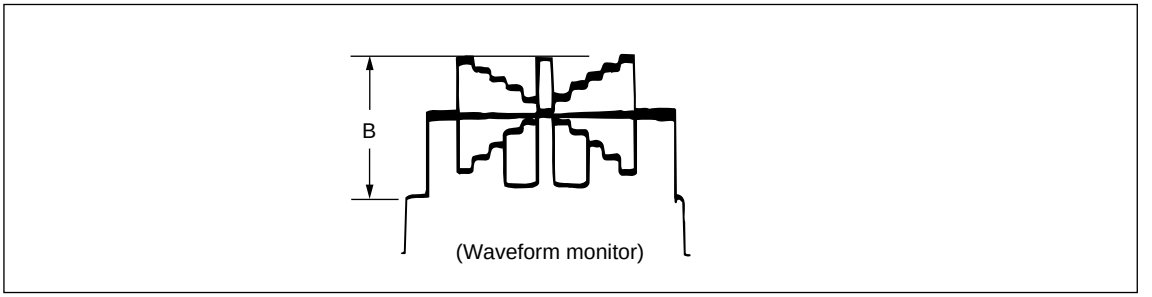
5. Set the setup menu as follows.
   MENU: Paint
   PAGE: Knee/W.Clip
   ITEM: Knee ⇨ Off

6. Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.

7. Len Iris: Close ⇨ F9.0

8. Adj. Point: ⊘RV1 (G GAIN)/IF-707 board
   Specification: [When the BVP-570 or the BVP-550 upgraded by the BKP-5090 is used:]
   B = 100 ±2 IRE (for NTSC)
   B = 700 ±14 mV (for PAL)

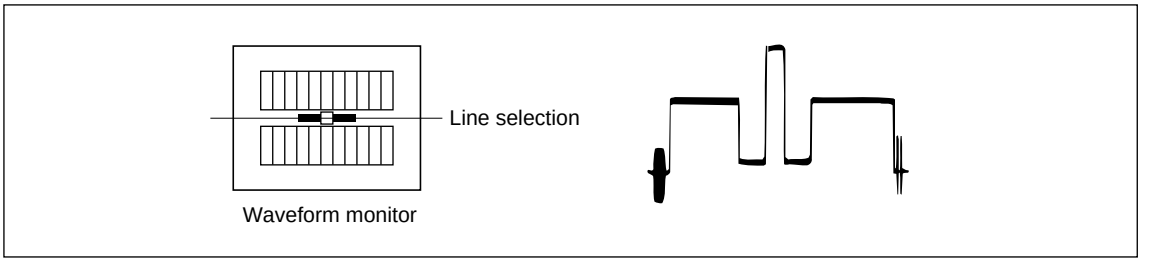
   [When the BVP-550 is used:]
   B = 92.5 ±2 IRE (for NTSC)
   B = 700 ±14 mV (for PAL)



9. ENC/RGB switch (on the side of camera) ⇨ ENC

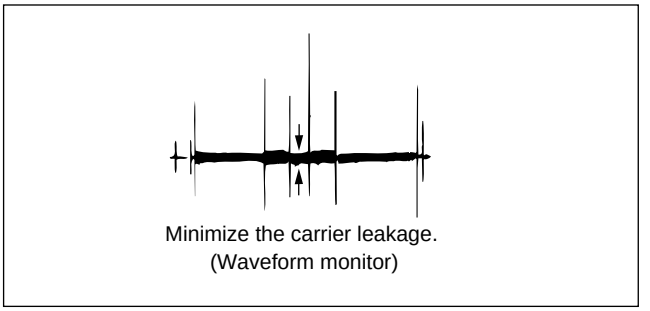
10. Set the setup menu as follows.
    MENU: Paint
    PAGE: Gamma
    ITEM: Gamma ⇨ Off

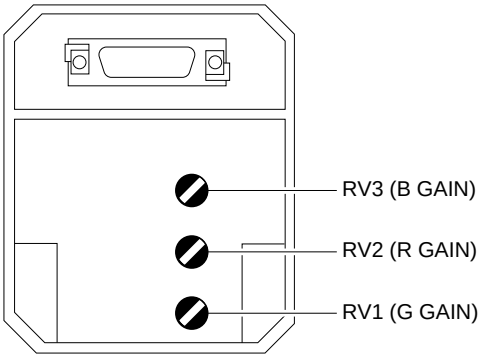
11. Make a 15-line selection in the center on the waveform monitor.



12. Put the waveform monitor into the CHROMA mode.

13. Adj. Points: ⊘RV2 (R GAIN)/IF-707 board
    ⊘RV3 (B GAIN)/IF-707 board
    Specification: Minimize the carrier leakage.





Setting Required After Adjustment

- Set the setup menu as follows.

  MENU: Paint
  PAGE: Knee/W.Clip
  ITEM: Knee ⇨ On

  MENU: Paint
  PAGE: Gamma
  ITEM: Gamma ⇨ On

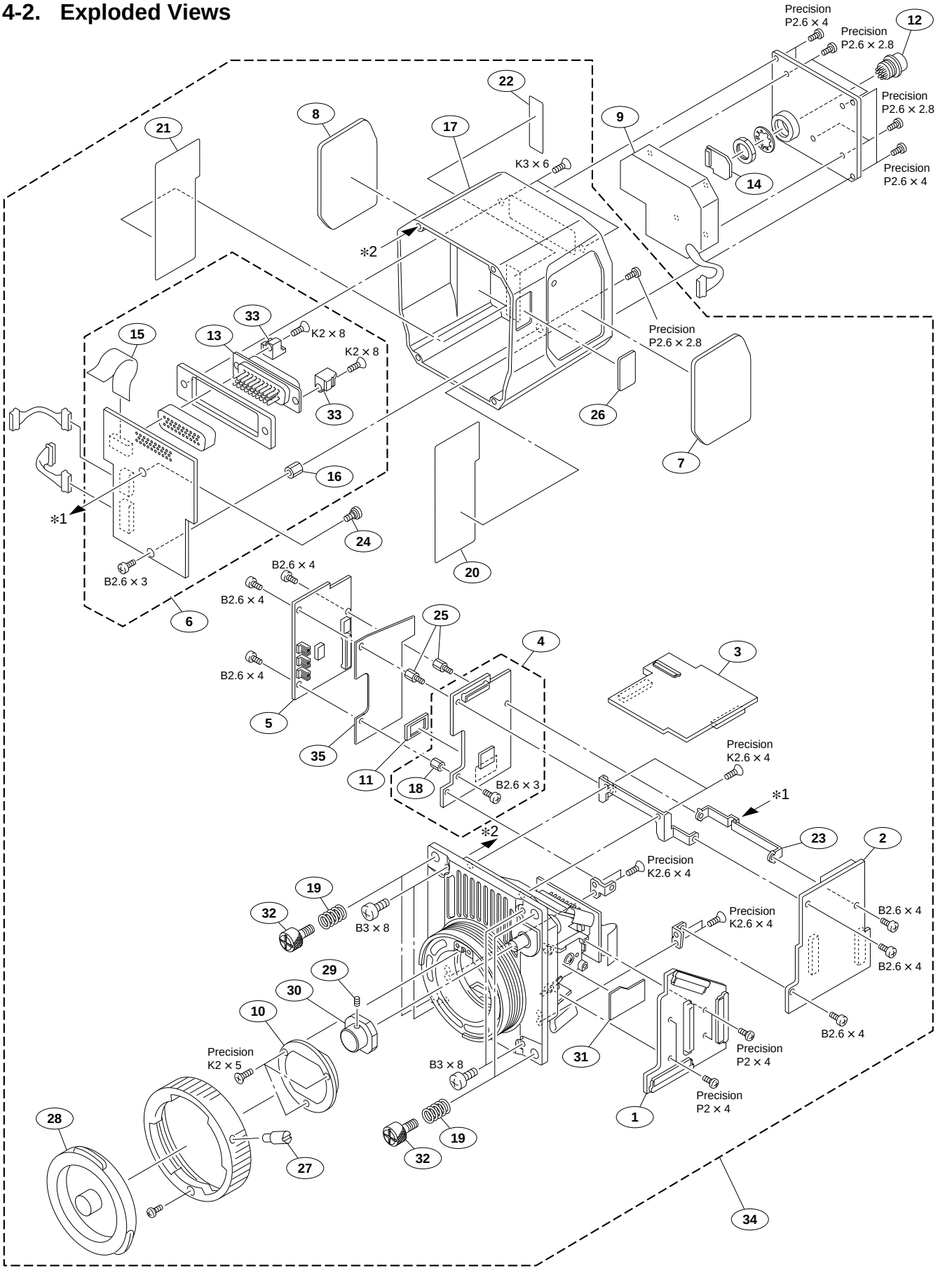
http://getMANUAL.com

Section 4
Spare Parts

4-1. Screws List

Part No.	SP	Description
7-621-555-59	s	SCREW +K 2X8
7-621-773-86	s	SCREW +B 2.6X4
7-621-775-08	s	SCREW +B 2.6X3
7-621-775-40	s	SCREW +B 2.6X8
7-627-452-38	s	SCREW, PRECISION +K 2X5
7-627-454-17	s	SCREW, PRECISION +K 2.6X4
7-627-553-47	s	SCREW, PRECISION +P 2X4
7-627-556-08	s	SCREW +P 2.6X2.8
7-627-556-38	s	SCREW +P 2.6X4.0
7-627-556-58	s	SCREW +P 2.6X5
7-628-254-05	s	SCREW +PS 2.6X5
7-682-247-09	s	SCREW +K 3X6
7-682-547-09	s	SCREW +B 3X6
7-682-548-09	s	SCREW +B 3X8
7-682-561-09	s	SCREW +B 4X8
7-683-436-04	s	BOLT, HEXAGON SOCKET 5X12
7-688-002-13	s	W2.6, MIDDLE

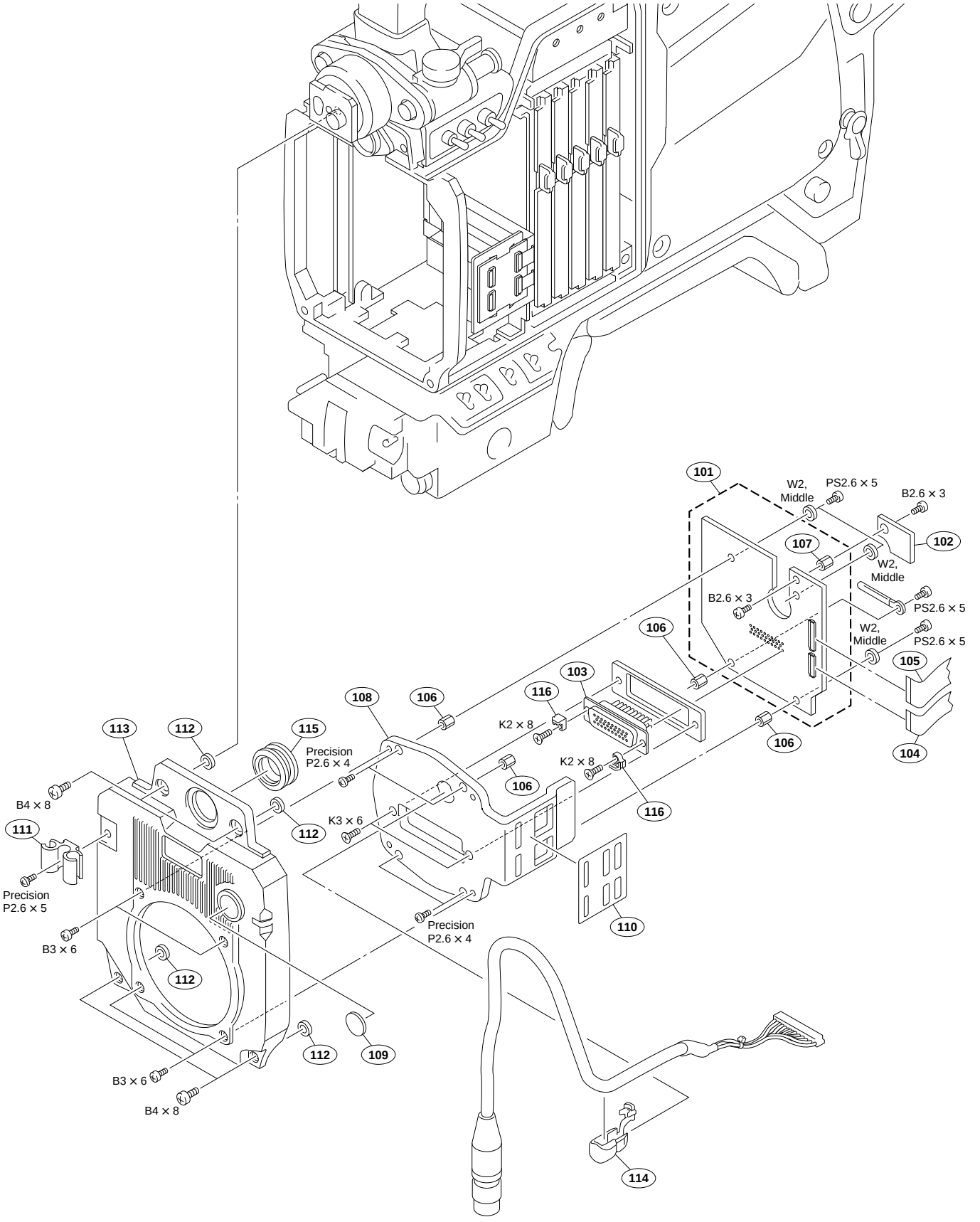
4-2. Exploded Views



No.	Part No.	SP	Description
1	A-8319-129-A	o	MOUNTED CIRCUIT BOARD, CN-1633
2	A-8319-130-A	o	MOUNTED CIRCUIT BOARD, DR-362
3	A-8319-131-A	o	MOUNTED CIRCUIT BOARD, TG-198N (for OHB-T450WS)
	A-8319-145-A	o	MOUNTED CIRCUIT BOARD, TG-198P (for OHB-T450WSP)
4	A-8319-132-A	o	MOUNTED CIRCUIT BOARD, BC-30
5	A-8319-133-A	o	MOUNTED CIRCUIT BOARD, PA-214
6	A-8319-134-A	o	MOUNTED CIRCUIT BOARD, IF-707
7	X-3604-639-1	o	S-PAD(R)ASSY
8	X-3604-640-1	o	S-PAD(L)ASSY
9	1-475-823-11	s	CONVERTER UNIT, DC-DC
10	1-475-824-11	o	FILTER UNIT, OPTICAL (for OHB-T450WS)
	1-475-824-21	o	FILTER UNIT, OPTICAL (for OHB-T450WSP)
11	1-540-194-12	s	SOCKET, IC
12	1-562-221-00	s	CONNECTOR, 12P FEMALE “LENS”
13	1-573-814-11	o	CONNECTOR, D-SUB (WITH C) 29P MALE “OPT HEAD”
14	1-669-638-11	o	PRINTED CIRCUIT BOARD, CN-1634
15	1-783-853-11	o	WIRE, FLEXIBLE CARD (24 CORE)
16	2-534-514-00	o	SUPPORT(1)
17	3-172-154-12	o	COVER, OPT
18	3-192-607-01	o	SUPPORT (B), PANEL
19	3-564-029-01	s	SPRING, COMPRESSION
20	3-615-519-01	o	SHEET,INSULATING (R)
21	3-615-520-01	o	SHEET,INSULATING (L)
22	3-615-521-01	o	SHEET,INSULATING (B)
23	3-615-524-01	o	BRACKET(4)
24	3-615-525-02	s	SCREW(M2), STEP
25	3-673-910-31	s	SCREW, CONNECTOR
26	3-678-607-02	o	LABEL, FILTER
27	3-678-629-00	s	LEVER, MOUNT
28	3-699-048-01	s	CAP, MOUNT
29	3-701-505-00	s	SET SCREW, DOUBLE POINT 3X3
30	3-710-054-01	s	KNOB, FILTER
31	3-734-558-02	o	SHEET, RADIATION
32	3-734-583-01	s	SCREW
33	3-734-590-01	o	BRACKET
34	CCD UNIT :		BKPCT450W/BKPCT450WP (WITH ROM-27 BOARD)
35	3-616-803-01	o	PLATE, SHIELD*

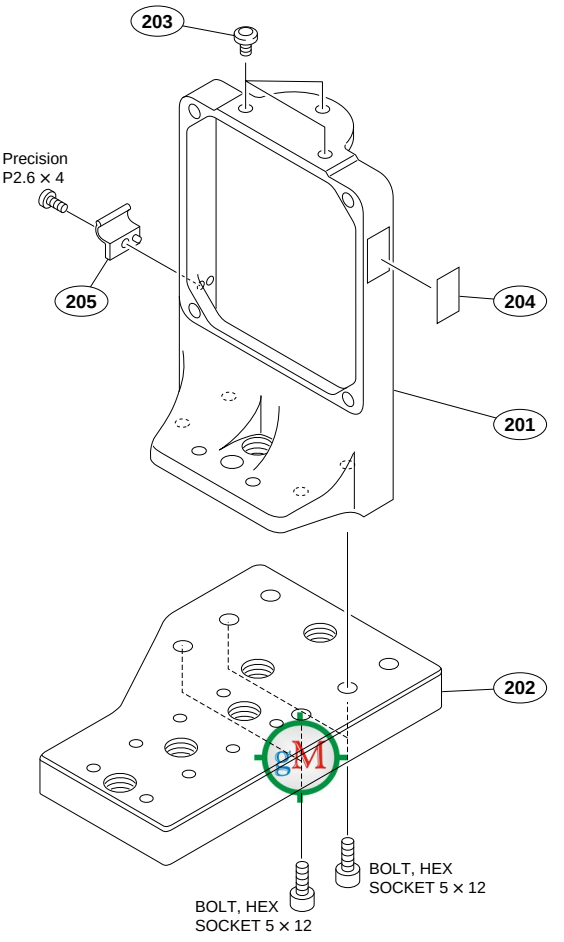
* S/N 10031- (OHB-T450WS:UC)
30011- (OHB-T450WS:J)
40011- (OHB-T450WSP:CE)

Cable Adaptor



No.	Part No.	SP	Description
101	A-8319-137-A	o	MOUNTED CIRCUIT BOARD, IF-708N (OHB-T450WS)
	A-8319-148-A	o	MOUNTED CIRCUIT BOARD, IF-708P (OHB-T450WSP)
102	1-669-642-11	o	PRINTED CIRCUIT BOARD, ROM-27
103	1-766-722-11	o	CONNECTOR, D-SUB 29P FEMALE "CAM BODY"
104	1-783-854-11	s	WIRE, FLEXIBLE CARD (20 CORE)
105	1-783-855-11	s	WIRE, FLEXIBLE CARD (24 CORE)
106	2-144-109-01	s	SHAFT (MAIN)
107	2-534-514-00	o	SUPPORT (1)
108	3-615-526-01	o	CONNECTOR PANEL
109	3-615-527-01	o	PLATE,ORNAMENTAL
110	3-615-528-01	o	HARNESS SUPPORT
111	3-679-659-03	o	CLAMP, CABLE
112	3-687-116-01	o	WASHER (4), STOPPER
113	3-692-188-01	o	PANEL, FRONT
114	3-703-001-00	s	BUSHING, CORD
115	3-710-024-01	o	PACKING, VF
116	3-734-590-01	o	BRACKET

Tripod Adaptor



No.	Part No.	SP	Description
201	3-615-542-01	o	TRIPOD ADAPTOR
202	3-615-543-01	o	BASE FLAME
203	3-673-018-11	s	SCREW, BLIND
204	3-678-607-02	o	LABEL, FILTER
205	3-678-684-00	o	HOLDER, CABLE

4-3. Electrical Parts List

BC-30 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8319-132-A	o	MOUNTED CIRCUIT BOARD, BC-30
1pc	3-192-607-01	o	SUPPORT (B), PANEL
1pc	7-621-775-08	s	SCREW +B 2.6X3
IS27	1-540-224-11	o	SOCKET, IC

CN-1633 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8319-129-A	o	MOUNTED CIRCUIT BOARD, CN-1633
C1	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C2	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C3	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C4	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C5	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C6	1-113-642-11	s	TANTALUM, CHIP 47uF 20% 10V
C7	1-113-642-11	s	TANTALUM, CHIP 47uF 20% 10V
C8	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C9	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C10	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C11	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-770-678-11	o	CONNECTOR, BOARD TO BOARD 50P
CN2	1-695-950-21	o	CONNECTER, FPC (ZIF) 21P
CN3	1-695-950-21	o	CONNECTER, FPC (ZIF) 21P
CN4	1-695-950-21	o	CONNECTER, FPC (ZIF) 21P
D1	8-719-104-34	s	DIODE 1S2835
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-800-76	s	DIODE 1SS226
D4	8-719-800-76	s	DIODE 1SS226
D5	8-719-800-76	s	DIODE 1SS226
D6	8-719-800-76	s	DIODE 1SS226
D7	8-719-800-76	s	DIODE 1SS226
D8	8-719-104-34	s	DIODE 1S2835
D9	8-719-104-34	s	DIODE 1S2835
IC1	8-759-242-51	s	IC TC74AC86F
IC2	8-759-242-51	s	IC TC74AC86F
R1	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R2	1-218-729-11	s	METAL, CHIP 36K 0.50% 1/16W
R3	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R4	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R5	1-216-795-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R6	1-216-795-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R7	1-216-795-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R8	1-216-795-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R9	1-216-795-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R10	1-216-795-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R11	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R12	1-218-729-11	s	METAL, CHIP 36K 0.50% 1/16W
R13	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R14	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R15	1-218-729-11	s	METAL, CHIP 36K 0.50% 1/16W
R16	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R18	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R20	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W

CN-1634 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-669-638-11	o	PRINTED CIRCUIT BOARD, CN-1634
CN1	1-565-142-11	o	PIN, CONNECTOR (STRAIGHT) 9P

DR-362 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8319-130-A	o	MOUNTED CIRCUIT BOARD, DR-362
C1	1-107-889-11	s	ELECT 220uF 20% 25V
C2	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C3	1-117-154-11	s	ELECT 33uF 20% 16V
C4	1-117-154-11	s	ELECT 33uF 20% 16V
C5	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C6	1-135-210-11	s	TANTALUM, CHIP 4.7uF 20% 10V
C7	1-117-154-11	s	ELECT 33uF 20% 16V
C8	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C9	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C10	1-126-948-11	s	ELECT 100uF 20% 35V
C12	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C13	1-135-210-11	s	TANTALUM, CHIP 4.7uF 20% 10V
C14	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C15	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C16	1-104-478-11	s	TANTAUM, CHIP 10uF 20% 35V
C17	1-135-212-21	s	TANTALUM, CHIP 2.2uF 20% 35V
C18	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C19	1-135-210-11	s	TANTALUM, CHIP 4.7uF 20% 10V
C20	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C21	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C23	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C24	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C25	1-104-915-11	s	TANTALUM, CHIP 2.2uF 20% 20V
C26	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C27	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C28	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C29	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C30	1-164-315-11	s	CERAMIC, CHIP 470PF 5% 50V
C32	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C33	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C34	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C38	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C39	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C40	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C42	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C43	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C44	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
CN1	1-691-942-11	s	CONNECTOR, BOARD TO BOARD 30P
CN2	1-770-677-11	o	CONNECTOR, BOARD TO BOARD 50P
CN3	1-506-490-11	o	CONNECTOR 11P, MALE
CN5	1-750-862-21	s	PIN, CONNECTOR (PC BOARD) 5P
D1	8-719-029-57	s	DIODE RD2.4UH-T1
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-801-78	s	DIODE 1SS184
D4	8-719-800-76	s	DIODE 1SS226
D5	8-719-029-61	s	DIODE RD3.6UH-T1
D6	8-719-800-76	s	DIODE 1SS226
D7	8-719-029-57	s	DIODE RD2.4UH-T1
D8	8-719-974-76	s	DIODE HSM107S-TL
IC1	8-759-173-16	s	IC TL062CPW
IC2	8-759-058-62	s	IC TC7S08FU(TE85R)
IC3	8-759-073-52	s	IC TC74AC04F-EL
IC4	8-759-979-69	s	IC TSC426C0A
IC5	8-759-906-54	s	IC TL064CNS
IC6	8-759-635-27	s	IC M62352GP

(DR-362 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC10	8-759-066-68	s	IC REF-03GS
IC11	8-759-172-33	s	IC UPD16502GS(1)
IC12	8-759-173-16	s	IC TL062CPW
IC13	8-759-172-33	s	IC UPD16502GS(1)
IC15	8-759-172-33	s	IC UPD16502GS(1)
L1	1-410-737-31	s	INDUCTOR CHIP 0.47uH
Q1	8-729-820-86	s	TRANSISTOR 2SB1121-ST
Q2	8-729-122-63	s	TRANSISTOR 2SA1226
Q3	8-729-421-71	s	TRANSISTOR 2SK620
Q4	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q5	8-729-141-48	s	TRANSISTOR 2SB624-BV345
R2	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R4	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R5	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R6	1-218-721-11	s	METAL, CHIP 16K 0.50% 1/16W
R7	1-220-232-11	s	METAL, CHIP 3.3 10% 1/4W
R8	1-218-652-11	s	METAL, CHIP 22 0.50% 1/16W
R9	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R10	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R11	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R12	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R13	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R14	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R15	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R16	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R17	1-218-709-11	s	METAL, CHIP 5.1K 0.50% 1/16W
R18	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R19	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R20	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R21	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R22	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R23	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R24	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R25	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R26	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R27	1-218-648-11	s	METAL, CHIP 15 0.50% 1/16W
R28	1-218-648-11	s	METAL, CHIP 15 0.50% 1/16W
R29	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R30	1-218-711-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R31	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R32	1-218-751-11	s	METAL, CHIP 300K 0.50% 1/16W
R33	1-218-655-91	s	METAL, CHIP 30 0.50% 1/16W
R34	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R35	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R36	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R37	1-218-688-11	s	METAL, CHIP 680 0.50% 1/16W
R38	1-218-729-11	s	METAL, CHIP 36K 0.50% 1/16W
R39	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R40	1-218-732-11	s	METAL, CHIP 47K 0.50% 1/16W
R41	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R42	1-218-732-11	s	METAL, CHIP 47K 0.50% 1/16W
R43	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R44	1-218-732-11	s	METAL, CHIP 47K 0.50% 1/16W
R45	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R46	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R47	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R48	1-216-864-11	s	METAL, CHIP 0 5% 1/16W

(DR-362 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R49	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R58	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R60	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R65	1-218-701-11	s	METAL, CHIP 2.4K 0.50% 1/16W
R66	1-218-712-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R67	1-218-720-11	s	METAL, CHIP 15K 0.50% 1/16W
R68	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R69	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R70	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R71	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R72	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R74	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R75	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R76	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R77	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R78	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R79	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R80	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R81	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R90	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R91	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R92	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R93	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R97	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R98	1-218-676-11	s	METAL, CHIP 220 0.50% 1/16W
R99	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R100	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R101	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R102	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R103	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R104	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W

IF-707 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8319-134-A	o	MOUNTED CIRCUIT BOARD, IF-707
1pc	1-783-853-11	o	WIRE, FLEXIBLE CARD (24 CORE)
1pc	2-534-514-00	o	SUPPORT (1)
2pcs	3-734-590-01	o	BRACKET
2pcs	7-621-555-59	s	SCREW +K 2X8
1pc	7-621-775-08	s	SCREW +B 2.6X3
C1	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C2	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C3	1-135-208-11	s	TANTAUM, CHIP 1uF 20% 10V
C4	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C5	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C6	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C7	1-119-751-11	s	TANTALUM, CHIP 22uF 20% 16V
C8	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C9	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C10	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C11	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C14	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C15	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C16	1-113-987-11	s	TANTALUM, CHIP 4.7uF 20% 25V
C20	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C21	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C22	1-162-905-11	s	CERAMIC, CHIP 1PF 50V
C23	1-113-986-11	s	TANTALUM, CHIP 2.2uF 20% 25V
C24	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C25	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C26	1-162-924-11	s	CERAMIC 56PF 5% 50V
C27	1-162-924-11	s	CERAMIC 56PF 5% 50V
C29	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C31	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C32	1-162-905-11	s	CERAMIC, CHIP 1PF 50V
C33	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C34	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C35	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C40	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C41	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C42	1-162-905-11	s	CERAMIC, CHIP 1PF 50V
C43	1-113-986-11	s	TANTALUM, CHIP 2.2uF 20% 25V
C44	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C45	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C46	1-162-924-11	s	CERAMIC 56PF 5% 50V
C47	1-162-924-11	s	CERAMIC 56PF 5% 50V
C49	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C51	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C52	1-162-905-11	s	CERAMIC, CHIP 1PF 50V
C53	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C54	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C55	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C60	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C61	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C62	1-162-905-11	s	CERAMIC, CHIP 1PF 50V
C63	1-113-986-11	s	TANTALUM, CHIP 2.2uF 20% 25V
C64	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C65	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C66	1-162-924-11	s	CERAMIC 56PF 5% 50V
C67	1-162-924-11	s	CERAMIC 56PF 5% 50V
C69	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C71	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C72	1-162-905-11	s	CERAMIC, CHIP 1PF 50V
C73	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V

(IF-707 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C74	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C75	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C76	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C77	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C78	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C79	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C81	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C82	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C90	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C91	1-135-208-11	s	TANTAUM, CHIP 1uF 20% 10V
C92	1-135-208-11	s	TANTAUM, CHIP 1uF 20% 10V
C93	1-135-208-11	s	TANTAUM, CHIP 1uF 20% 10V
C94	1-135-208-11	s	TANTAUM, CHIP 1uF 20% 10V
C95	1-135-208-11	s	TANTAUM, CHIP 1uF 20% 10V
CN1	1-695-442-21	o	PIN, CONNECTOR (PC BOARD) 10P
CN2	1-764-093-21	o	PIN, CONNECTOR (PC BOARD) 8P
CN3	1-774-261-11	o	CONNECTOR, FFC (ZIF) 24P
CN4	1-573-814-11	o	CONNECTOR, 29P MALE
D1	8-719-029-63	s	DIODE RD4.3UH-T1
D2	8-719-029-63	s	DIODE RD4.3UH-T1
IC1	8-759-066-68	s	IC REF-03GS
IC2	8-759-173-16	s	IC TL062CPW
IC3	8-759-929-21	s	IC TLC27L2CPS
IC4	8-759-054-61	s	IC CLC505AJE
IC5	8-759-054-61	s	IC CLC505AJE
IC6	8-759-054-61	s	IC CLC505AJE
IC7	8-759-054-61	s	IC CLC505AJE
IC8	8-759-054-61	s	IC CLC505AJE
IC9	8-759-054-61	s	IC CLC505AJE
IC10	8-759-434-12	s	IC TLC372CPW-E05
IC11	8-759-173-16	s	IC TL062CPW
IC12	8-759-438-25	s	IC TLC374CPW-E20
L1	1-410-385-11	s	INDUCTOR, CHIP 22uH
L2	1-410-378-11	s	INDUCTOR, CHIP 5.6uH
L3	1-410-385-11	s	INDUCTOR, CHIP 22uH
L4	1-410-378-11	s	INDUCTOR, CHIP 5.6uH
L5	1-410-385-11	s	INDUCTOR, CHIP 22uH
L6	1-410-378-11	s	INDUCTOR, CHIP 5.6uH
L7	1-410-389-31	s	INDUCTOR CHIP 47UH
L8	1-410-389-31	s	INDUCTOR CHIP 47UH
Q1	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q2	8-729-141-75	s	TRANSISTOR 2SD596DV345
Q4	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q5	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q6	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q7	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q8	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q9	8-729-143-13	s	TRANSISTOR 2SC4176-B34
R1	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R2	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R3	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R4	1-218-729-11	s	METAL, CHIP 36K 0.50% 1/16W
R5	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R10	1-218-675-11	s	METAL, CHIP 200 0.50% 1/16W
R11	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R12	1-218-731-11	s	METAL, CHIP 43K 0.50% 1/16W
R13	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W

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(IF-707 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R14	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R15	1-218-744-11	s	METAL, CHIP 150K 0.50% 1/16W
R16	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R17	1-218-690-11	s	METAL, CHIP 820 0.50% 1/16W
R18	1-218-747-11	s	METAL, CHIP 200K 0.50% 1/16W
R19	1-216-863-11	s	METAL, CHIP 3.3M 5% 1/16W
R20	1-216-863-11	s	METAL, CHIP 3.3M 5% 1/16W
R21	1-218-747-11	s	METAL, CHIP 200K 0.50% 1/16W
R22	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R23	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R26	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R27	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R28	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R29	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R30	1-218-665-11	s	METAL, CHIP 75 0.50% 1/16W
R40	1-218-675-11	s	METAL, CHIP 200 0.50% 1/16W
R41	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R42	1-218-731-11	s	METAL, CHIP 43K 0.50% 1/16W
R43	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R44	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R45	1-218-744-11	s	METAL, CHIP 150K 0.50% 1/16W
R46	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R47	1-218-690-11	s	METAL, CHIP 820 0.50% 1/16W
R48	1-218-747-11	s	METAL, CHIP 200K 0.50% 1/16W
R49	1-216-863-11	s	METAL, CHIP 3.3M 5% 1/16W
R50	1-216-863-11	s	METAL, CHIP 3.3M 5% 1/16W
R51	1-218-747-11	s	METAL, CHIP 200K 0.50% 1/16W
R52	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R53	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R56	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R57	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R58	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R59	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R60	1-218-665-11	s	METAL, CHIP 75 0.50% 1/16W
R70	1-218-675-11	s	METAL, CHIP 200 0.50% 1/16W
R71	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R72	1-218-731-11	s	METAL, CHIP 43K 0.50% 1/16W
R73	1-218-735-11	s	METAL, CHIP 62K 0.50% 1/16W
R74	1-218-687-11	s	METAL, CHIP 620 0.50% 1/16W
R75	1-218-744-11	s	METAL, CHIP 150K 0.50% 1/16W
R76	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R77	1-218-690-11	s	METAL, CHIP 820 0.50% 1/16W
R78	1-218-747-11	s	METAL, CHIP 200K 0.50% 1/16W
R79	1-216-863-11	s	METAL, CHIP 3.3M 5% 1/16W
R80	1-216-863-11	s	METAL, CHIP 3.3M 5% 1/16W
R81	1-218-747-11	s	METAL, CHIP 200K 0.50% 1/16W
R82	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R83	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R86	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R87	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R88	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R89	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R90	1-218-665-11	s	METAL, CHIP 75 0.50% 1/16W
R101	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R102	1-218-699-11	s	METAL, CHIP 2K 0.50% 1/16W
R103	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R104	1-218-676-11	s	METAL, CHIP 220 0.50% 1/16W
R106	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R107	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W

(IF-707 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R108	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R109	1-218-709-11	s	METAL, CHIP 5.1K 0.50% 1/16W
R110	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R111	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R112	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R113	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R114	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R115	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R116	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R117	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R118	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R119	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R120	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R121	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R123	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R124	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R125	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R126	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R127	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R128	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R129	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R130	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R131	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R132	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R150	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R151	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R152	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R153	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R154	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R155	1-218-751-11	s	METAL, CHIP 300K 0.50% 1/16W
R156	1-218-751-11	s	METAL, CHIP 300K 0.50% 1/16W
R157	1-218-751-11	s	METAL, CHIP 300K 0.50% 1/16W
R158	1-218-737-11	s	METAL, CHIP 75K 0.50% 1/16W
R159	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R160	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R161	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R162	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R163	1-218-751-11	s	METAL, CHIP 300K 0.50% 1/16W
R164	1-218-735-11	s	METAL, CHIP 62K 0.50% 1/16W
R170	1-218-743-11	s	METAL, CHIP 130K 0.50% 1/16W
R171	1-218-743-11	s	METAL, CHIP 130K 0.50% 1/16W
R172	1-218-743-11	s	METAL, CHIP 130K 0.50% 1/16W
R173	1-218-751-11	s	METAL, CHIP 300K 0.50% 1/16W
RV1	1-237-033-11	s	RES, ADJ METAL 1K
RV2	1-237-033-11	s	RES, ADJ METAL 1K
RV3	1-237-033-11	s	RES, ADJ METAL 1K

IF-708N/708P BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8319-137-A	o	MOUNTED CIRCUIT BOARD, IF-708N [for OHB-T450WS]
1pc	A-8319-148-A	o	MOUNTED CIRCUIT BOARD, IF-708P [for OHB-T450WSP]
1pc	2-534-514-00	o	SUPPORT (1)
1pc	7-621-775-08	s	SCREW +B 2.6X3
C2	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C3	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C4	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C5	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C6	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C7	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C8	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C9	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C10	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C11	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C12	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C14	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C15	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C16	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C17	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C18	1-165-176-11	s	CERAMIC, CHIP 0.047uF 10% 16V
C19	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C20	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C21	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C22	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C23	1-119-751-11	s	TANTALUM, CHIP 22uF 20% 16V
C24	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C25	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C26	1-135-208-11	s	TANTAUM, CHIP 1uF 20% 10V
C27	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C28	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C29	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C30	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C31	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C32	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C33	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C34	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C36	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C38	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C40	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C41	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C42	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C44	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C45	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C46	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C47	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C48	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C49	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C50	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C51	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C52	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C53	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C54	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C55	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C56	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C57	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C58	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C59	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V

Ref. No. or Q'ty	Part No.	SP	Description
C60	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C61	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C62	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C63	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C65	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C66	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C67	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C68	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C69	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C70	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C71	1-113-642-11	s	TANTALUM, CHIP 47uF 20% 10V
C72	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C74	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C75	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C76	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C77	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3
C78	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3
C80	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C81	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C82	1-113-981-11	s	TANTALUM, CHIP 22uF 20% 20V
C83	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C84	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C85	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C86	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C87	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C88	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C90	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C91	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C93	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C94	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C95	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C96	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C97	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C98	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C102	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C104	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C106	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C110	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C111	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C112	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C113	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-506-477-11	o	CONNECTOR 12P, MALE
CN3	1-774-260-11	o	CONNECTOR, FFC (ZIF) 20P
CN4	1-774-261-11	o	CONNECTOR, FFC (ZIF) 24P
CN5	1-764-091-11	o	PIN, CONNECTOR (PC BOARD) 6P
CN6	1-785-045-31	o	CONNECTOR, BOARD TO BOARD 8P
CP1	1-577-202-11	s	OSCILLATOR, CRYSTAL 36MHz
D1	8-719-800-76	s	DIODE 1SS226
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-029-57	s	DIODE RD2.4UH-T1
D4	8-719-029-63	s	DIODE RD4.3UH-T1
D5	8-719-029-63	s	DIODE RD4.3UH-T1
D6	8-719-800-76	s	DIODE 1SS226
IC1	8-759-082-58	s	IC TC7W08FU
IC3	8-759-082-57	s	IC TC7W04FU
IC4	8-759-196-96	s	IC TC7SH08FU-TE85R
IC5	8-759-295-09	s	IC TLC2932IPW

(IF-708N/708P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC6	8-759-271-86	s	IC TC7SH04FU
IC7	8-759-260-55	s	IC TLC272CPW-E05
IC8	8-759-447-77	s	IC TC7WH74FU(TE12R)
IC9	8-759-196-96	s	IC TC7SH08FU-TE85R
IC11	8-759-058-62	s	IC TC7S08FU(TE85R)
IC12	8-759-058-62	s	IC TC7S08FU(TE85R)
IC13	8-759-260-55	s	IC TLC272CPW-E05
IC14	8-759-271-86	s	IC TC7SH04FU
IC15	8-759-510-71	s	IC UPC358G2-E2
IC16	8-759-271-86	s	IC TC7SH04FU
IC17	8-759-271-86	s	IC TC7SH04FU
IC18	8-759-058-62	s	IC TC7S08FU(TE85R)
IC19	8-759-058-62	s	IC TC7S08FU(TE85R)
IC20	8-759-058-62	s	IC TC7S08FU(TE85R)
IC21	8-759-058-62	s	IC TC7S08FU(TE85R)
IC22	8-759-058-62	s	IC TC7S08FU(TE85R)
IC23	8-759-058-62	s	IC TC7S08FU(TE85R)
IC24	8-759-058-64	s	IC TC7S32FU(TE85R)
IC25	8-759-066-68	s	IC REF-03GS
IC27	8-759-276-00	s	IC TC7W139FU(TE12R)
IC28	8-759-175-04	s	IC PCF8574T-T
IC30	8-759-260-55	s	IC TLC272CPW-E05
IC31	8-759-196-96	s	IC TC7SH08FU-TE85R
IC32	8-759-082-53	s	IC TLC274CPW
IC33	8-759-058-58	s	IC TC7S04FU(TE85R)
L1	1-410-389-31	s	INDUCTOR CHIP 47UH
L2	1-410-389-31	s	INDUCTOR CHIP 47UH
L3	1-410-389-31	s	INDUCTOR CHIP 47UH
Q1	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q2	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q3	8-729-143-07	s	TRANSISTOR 2SA1610-YY33
Q4	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q7	8-729-117-32	s	TRANSISTOR 2SC4177
Q8	8-729-117-32	s	TRANSISTOR 2SC4177
Q9	8-729-117-32	s	TRANSISTOR 2SC4177
Q10	8-729-117-32	s	TRANSISTOR 2SC4177
Q11	8-729-117-32	s	TRANSISTOR 2SC4177
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q14	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q15	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q16	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q17	8-729-143-07	s	TRANSISTOR 2SA1610-YY33
Q18	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q19	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q20	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q21	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q22	8-729-141-75	s	TRANSISTOR 2SD596DV345
Q23	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q24	8-729-143-07	s	TRANSISTOR 2SA1610-YY33
Q25	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q26	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q27	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q28	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q29	8-729-117-32	s	TRANSISTOR 2SC4177
Q30	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q31	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q32	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q33	8-729-117-73	s	TRANSISTOR 2SC4178-F14

(IF-708N/708P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q34	8-729-143-07	s	TRANSISTOR 2SA1610-YY33
Q35	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q36	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q37	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q38	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q40	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q41	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q42	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q43	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q44	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q45	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q46	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
R1	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R2	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R3	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R4	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R5	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R6	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R7	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R11	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R12	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R14	1-218-676-11	s	METAL, CHIP 220 0.50% 1/16W
R15	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R16	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R17	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R18	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R19	1-218-665-11	s	METAL, CHIP 75 0.50% 1/16W
R20	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R21	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R22	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R23	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R24	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R25	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R26	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R27	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R28	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R29	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R30	1-218-704-11	s	METAL, CHIP 3.3K 0.50% 1/16W
R31	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R32	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R33	1-218-734-11	s	METAL, CHIP 56K 5% 1/16W
R35	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R36	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R37	1-218-689-11	s	METAL, CHIP 750 0.50% 1/16W
R38	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R39	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R40	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R41	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R43	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R44	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for OHB-T450WS]
R45	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for OHB-T450WSP]
R46	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R47	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R48	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R50	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R51	1-218-732-11	s	METAL, CHIP 47K 0.50% 1/16W
R52	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W

(IF-708N/708P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R53	1-218-672-11	s	METAL, CHIP 150 0.50% 1/16W
R54	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R55	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R56	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R59	1-218-691-11	s	METAL, CHIP 910 0.50% 1/16W
R60	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R61	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R62	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R65	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R66	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R67	1-218-680-11	s	METAL, CHIP 330 0.50% 1/16W
R68	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R69	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R72	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R73	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R75	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R76	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R77	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R78	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R79	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R80	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R81	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R82	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R83	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R84	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R85	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R86	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R87	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R88	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R89	1-218-656-11	s	METAL, CHIP 33 0.50% 1/16W
R90	1-218-656-11	s	METAL, CHIP 33 0.50% 1/16W
R91	1-218-656-11	s	METAL, CHIP 33 0.50% 1/16W
R93	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R94	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R95	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R96	1-218-748-11	s	METAL, CHIP 220K 0.50% 1/16W
R97	1-218-748-11	s	METAL, CHIP 220K 0.50% 1/16W
R98	1-218-748-11	s	METAL, CHIP 220K 0.50% 1/16W
R99	1-218-748-11	s	METAL, CHIP 220K 0.50% 1/16W
R100	1-218-748-11	s	METAL, CHIP 220K 0.50% 1/16W
R101	1-218-748-11	s	METAL, CHIP 220K 0.50% 1/16W
R102	1-218-748-11	s	METAL, CHIP 220K 0.50% 1/16W
R103	1-218-656-11	s	METAL, CHIP 33 0.50% 1/16W
R105	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R106	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R107	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R108	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R109	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R111	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R113	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R114	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R116	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R117	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R118	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R119	1-218-700-11	s	METAL, CHIP 2.2K 0.50% 1/16W
R120	1-218-665-11	s	METAL, CHIP 75 0.50% 1/16W

(IF-708N/708P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R121	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R122	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R123	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R124	1-218-667-11	s	METAL, CHIP 91 0.50% 1/16W
R125	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R127	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R128	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R129	1-216-862-11	s	METAL, CHIP 2.7M 5% 1/16W
R130	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R131	1-218-717-11	s	METAL, CHIP 11K 0.50% 1/16W
R132	1-216-862-11	s	METAL, CHIP 2.7M 5% 1/16W
R133	1-218-690-11	s	METAL, CHIP 820 0.50% 1/16W
R134	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R135	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R136	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R137	1-218-714-11	s	METAL, CHIP 8.2K 0.50% 1/16W
R138	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R139	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R140	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R141	1-218-690-11	s	METAL, CHIP 820 0.50% 1/16W
R142	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R143	1-218-698-11	s	METAL, CHIP 1.8K 0.50% 1/16W
R144	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R145	1-218-700-11	s	METAL, CHIP 2.2K 0.50% 1/16W
R146	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R147	1-218-665-11	s	METAL, CHIP 75 0.50% 1/16W
R148	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R149	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R150	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R151	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R152	1-218-667-11	s	METAL, CHIP 91 0.50% 1/16W
R153	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R154	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R155	1-216-862-11	s	METAL, CHIP 2.7M 5% 1/16W
R156	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R157	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R158	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R159	1-218-718-11	s	METAL, CHIP 12K 0.50% 1/16W
R160	1-216-862-11	s	METAL, CHIP 2.7M 5% 1/16W
R161	1-218-690-11	s	METAL, CHIP 820 0.50% 1/16W
R162	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R164	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R165	1-218-718-11	s	METAL, CHIP 12K 0.50% 1/16W
R166	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R167	1-218-714-11	s	METAL, CHIP 8.2K 0.50% 1/16W
R168	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R169	1-218-680-11	s	METAL, CHIP 330 0.50% 1/16W
R170	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R171	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R172	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R173	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R174	1-218-690-11	s	METAL, CHIP 820 0.50% 1/16W
R175	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R176	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R177	1-218-700-11	s	METAL, CHIP 2.2K 0.50% 1/16W
R178	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R179	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R180	1-218-665-11	s	METAL, CHIP 75 0.50% 1/16W
R181	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W

(IF-708N/708P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R182	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R183	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R184	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R185	1-218-667-11	s	METAL, CHIP 91 0.50% 1/16W
R186	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R187	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R188	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R189	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R190	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R191	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R192	1-218-699-11	s	METAL, CHIP 2K 0.50% 1/16W
R193	1-216-863-11	s	METAL, CHIP 3.3M 5% 1/16W
R194	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R196	1-218-690-11	s	METAL, CHIP 820 0.50% 1/16W
R197	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R198	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R199	1-218-714-11	s	METAL, CHIP 8.2K 0.50% 1/16W
R200	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R201	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R202	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R203	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R204	1-218-676-11	s	METAL, CHIP 220 0.50% 1/16W
R205	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R206	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R207	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R208	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R210	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R211	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R212	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R215	1-218-700-11	s	METAL, CHIP 2.2K 0.50% 1/16W
R216	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R217	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R218	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R220	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R230	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R232	1-218-706-11	s	METAL, CHIP 3.9K 0.50% 1/16W
R233	1-218-718-11	s	METAL, CHIP 12K 0.50% 1/16W
R234	1-218-706-11	s	METAL, CHIP 3.9K 0.50% 1/16W
R235	1-218-718-11	s	METAL, CHIP 12K 0.50% 1/16W
R236	1-218-706-11	s	METAL, CHIP 3.9K 0.50% 1/16W
R237	1-218-718-11	s	METAL, CHIP 12K 0.50% 1/16W
R238	1-218-706-11	s	METAL, CHIP 3.9K 0.50% 1/16W
R239	1-218-718-11	s	METAL, CHIP 12K 0.50% 1/16W
X1	1-760-091-11	s	OSCILLATOR, CRYSTAL 36.000000MHz [for OHB-T450WSP]

PA-214 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8319-133-A	o	MOUNTED CIRCUIT BOARD, PA-214
C1	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C2	1-113-985-11	s	TANTALUM, CHIP 10uF 20% 20V
C3	1-135-214-21	s	TANTALUM, CHIP 4.7uF 20% 20V
C4	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C6	1-113-985-11	s	TANTALUM, CHIP 10uF 20% 20V
C7	1-135-214-21	s	TANTALUM, CHIP 4.7uF 20% 20V
C8	1-113-985-11	s	TANTALUM, CHIP 10uF 20% 20V
C9	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C10	1-162-918-11	s	CERAMIC, CHIP 18PF 5% 50V
C11	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C12	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
C13	1-135-214-21	s	TANTALUM, CHIP 4.7uF 20% 20V
C14	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C15	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C16	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C17	1-135-214-21	s	TANTALUM, CHIP 4.7uF 20% 20V
C18	1-135-214-21	s	TANTALUM, CHIP 4.7uF 20% 20V
C20	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C21	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C22	1-162-915-11	s	CERAMIC, CHIP 10PF 50V
C23	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C24	1-113-986-11	s	TANTALUM, CHIP 2.2uF 20% 25V
C29	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C31	1-162-918-11	s	CERAMIC, CHIP 18PF 5% 50V
C32	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C33	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
C34	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C35	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C37	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C38	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C39	1-162-915-11	s	CERAMIC, CHIP 10PF 50V
C40	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C42	1-135-214-21	s	TANTALUM, CHIP 4.7uF 20% 20V
C43	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C47	1-135-214-21	s	TANTALUM, CHIP 4.7uF 20% 20V
C48	1-107-685-11	s	TANTALUM, CHIP 15uF 20% 6.3V
C49	1-119-751-11	s	TANTALUM, CHIP 22uF 20% 16V
C50	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C51	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C52	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C53	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C54	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C55	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C56	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C57	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C59	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C60	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C62	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C63	1-162-918-11	s	CERAMIC, CHIP 18PF 5% 50V
C64	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C65	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
C66	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C70	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C71	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C72	1-162-915-11	s	CERAMIC, CHIP 10PF 50V
C74	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C75	1-135-214-21	s	TANTALUM, CHIP 4.7uF 20% 20V

(PA-214 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C76	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C77	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
CN1	1-764-091-11	o	PIN, CONNECTOR (PC BOARD) 6P
CN2	1-506-467-11	o	CONNECTOR 2P, MALE
CN3	1-506-467-11	o	CONNECTOR 2P, MALE
CN4	1-506-467-11	o	CONNECTOR 2P, MALE
CN5	1-691-942-11	s	CONNECTOR, BOARD TO BOARD 30P
D1	8-719-041-68	s	DIODE RD3.3UH-T1
D2	8-719-041-68	s	DIODE RD3.3UH-T1
D4	8-719-029-57	s	DIODE RD2.4UH-T1
D5	8-719-041-68	s	DIODE RD3.3UH-T1
D6	8-719-041-68	s	DIODE RD3.3UH-T1
IC1	8-752-052-72	s	IC CXA1439M
IC2	8-759-260-55	s	IC TLC272CPW-E05
IC3	8-759-196-96	s	IC TC7SH08FU-TE85R
IC4	8-759-196-96	s	IC TC7SH08FU-TE85R
IC5	8-759-196-96	s	IC TC7SH08FU-TE85R
IC6	8-759-196-96	s	IC TC7SH08FU-TE85R
IC7	8-759-196-96	s	IC TC7SH08FU-TE85R
IC8	8-759-196-96	s	IC TC7SH08FU-TE85R
IC9	8-759-082-53	s	IC TLC274CPW
IC10	8-759-392-01	s	IC TC7SH86FU-TE85R
IC11	8-752-052-72	s	IC CXA1439M
IC12	8-759-082-60	s	IC TC7S66FU
IC13	8-759-082-60	s	IC TC7S66FU
IC16	8-759-392-01	s	IC TC7SH86FU-TE85R
IC18	8-752-052-72	s	IC CXA1439M
IC19	8-759-082-60	s	IC TC7S66FU
IC20	8-759-392-01	s	IC TC7SH86FU-TE85R
Q1	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q2	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q3	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q4	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q5	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q6	8-729-216-22	s	TRANSISTOR 2SA1162
Q7	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q8	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q9	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q11	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q13	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q14	8-729-116-66	s	TRANSISTOR 2SK508-K53
Q15	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q16	8-729-116-66	s	TRANSISTOR 2SK508-K53
Q17	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q18	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q20	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q22	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q23	8-729-116-66	s	TRANSISTOR 2SK508-K53
Q24	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q25	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q26	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q27	8-729-216-22	s	TRANSISTOR 2SA1162
Q29	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q34	8-729-216-22	s	TRANSISTOR 2SA1162
Q53	8-729-216-22	s	TRANSISTOR 2SA1162
R1	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R2	1-218-663-11	s	METAL, CHIP 62 0.50% 1/16W

(PA-214 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R3	1-218-709-11	s	METAL, CHIP 5.1K 0.50% 1/16W
R4	1-218-704-11	s	METAL, CHIP 3.3K 0.50% 1/16W
R5	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R7	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R8	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R9	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R10	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R11	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R12	1-218-685-11	s	METAL, CHIP 510 0.50% 1/16W
R13	1-218-719-11	s	METAL, CHIP 13K 0.50% 1/16W
R14	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R15	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R19	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R20	1-218-704-11	s	METAL, CHIP 3.3K 0.50% 1/16W
R21	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R22	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R23	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R24	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R25	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R26	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R27	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R28	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R29	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R30	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R31	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R32	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R34	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R35	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R36	1-218-713-11	s	METAL, CHIP 7.5K 0.50% 1/16W
R37	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R38	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R40	1-218-682-11	s	METAL, CHIP 390 0.50% 1/16W
R41	1-218-663-11	s	METAL, CHIP 62 0.50% 1/16W
R42	1-218-709-11	s	METAL, CHIP 5.1K 0.50% 1/16W
R43	1-218-704-11	s	METAL, CHIP 3.3K 0.50% 1/16W
R44	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R46	1-218-733-11	s	METAL, CHIP 51K 0.50% 1/16W
R47	1-218-733-11	s	METAL, CHIP 51K 0.50% 1/16W
R48	1-218-733-11	s	METAL, CHIP 51K 0.50% 1/16W
R50	1-218-685-11	s	METAL, CHIP 510 0.50% 1/16W
R52	1-218-719-11	s	METAL, CHIP 13K 0.50% 1/16W
R53	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R58	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R59	1-218-704-11	s	METAL, CHIP 3.3K 0.50% 1/16W
R60	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R61	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R62	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R63	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R64	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R65	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R66	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R67	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R68	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R69	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R70	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R71	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R72	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R73	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R74	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W

(PA-214 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R75	1-218-713-11	s	METAL, CHIP 7.5K 0.50% 1/16W
R76	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R77	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R79	1-218-682-11	s	METAL, CHIP 390 0.50% 1/16W
R80	1-218-663-11	s	METAL, CHIP 62 0.50% 1/16W
R81	1-218-709-11	s	METAL, CHIP 5.1K 0.50% 1/16W
R82	1-218-704-11	s	METAL, CHIP 3.3K 0.50% 1/16W
R84	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R86	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R87	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R89	1-218-685-11	s	METAL, CHIP 510 0.50% 1/16W
R91	1-218-719-11	s	METAL, CHIP 13K 0.50% 1/16W
R92	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R97	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R98	1-218-704-11	s	METAL, CHIP 3.3K 0.50% 1/16W
R99	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R100	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R101	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R102	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R103	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R104	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R105	1-218-723-11	s	METAL, CHIP 20K 0.50% 1/16W
R106	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R107	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R110	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R111	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R112	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R113	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R114	1-218-713-11	s	METAL, CHIP 7.5K 0.50% 1/16W
R115	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R116	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R122	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R123	1-218-682-11	s	METAL, CHIP 390 0.50% 1/16W
R124	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R126	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R127	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R129	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R130	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R131	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R132	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R133	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R134	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R136	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R137	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R138	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R139	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R140	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R141	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R142	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R143	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R144	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R145	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R146	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R147	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R148	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R149	1-218-738-11	s	METAL, CHIP 82K 0.50% 1/16W
R150	1-218-738-11	s	METAL, CHIP 82K 0.50% 1/16W
R160	1-218-709-11	s	METAL, CHIP 5.1K 0.50% 1/16W
R161	1-218-709-11	s	METAL, CHIP 5.1K 0.50% 1/16W

(PA-214 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R162	1-218-709-11	s	METAL, CHIP 5.1K 0.50% 1/16W
R163	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R164	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R165	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R186	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
RV1	1-241-832-21	s	RES, ADJ, METAL 5K
RV3	1-241-832-21	s	RES, ADJ, METAL 5K
RV4	1-241-832-21	s	RES, ADJ, METAL 5K
RV6	1-241-832-21	s	RES, ADJ, METAL 5K
RV7	1-241-832-21	s	RES, ADJ, METAL 5K
RV9	1-241-832-21	s	RES, ADJ, METAL 5K

PR-212 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8269-296-A	o	MOUNTED CIRCUIT BOARD, PR-212

ROM-27 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-669-642-11	o	PRINTED CIRCUIT BOARD, ROM-27
C1	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-785-047-41	o	CONNECTOR, BOARD TO BOARD 8P
R1	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R2	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R3	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W

TG-198N/198P BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8319-131-A	o	MOUNTED CIRCUIT BOARD, TG-198N [for OHB-T450WS]
1pc	A-8319-145-A	o	MOUNTED CIRCUIT BOARD, TG-198P [for OHB-T450WSP]
C1	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C2	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C3	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C4	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C5	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C6	1-162-915-11	s	CERAMIC, CHIP 10PF 50V
C7	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C9	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C10	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C11	1-162-910-11	s	CERAMIC, CHIP 5PF 50V
C12	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C13	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C14	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C15	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C16	1-164-160-11	s	CERAMIC, CHIP 20PF 5% 50V
C17	1-164-160-11	s	CERAMIC, CHIP 20PF 5% 50V
C18	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C19	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C20	1-135-210-11	s	TANTALUM, CHIP 4.7uF 20% 10V
C21	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C22	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C23	1-113-682-11	s	TANTALUM, CHIP 33uF 20% 10V
C25	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C26	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C27	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C28	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C29	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C30	1-104-914-11	s	TANTALUM, CHIP 22uF 20% 16V
C31	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3
C32	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3
C33	1-135-179-21	s	TANTALUM, CHIP 2.2uF 10% 16V
C34	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C35	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C36	1-165-176-11	s	CERAMIC, CHIP 0.047uF 10% 16V
C37	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C38	1-119-751-11	s	TANTALUM, CHIP 22uF 20% 16V
C39	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C40	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C41	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C42	1-135-210-11	s	TANTALUM, CHIP 4.7uF 20% 10V
C43	1-162-964-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C60	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C73	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C74	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C75	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C76	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C77	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
C78	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-691-943-21	o	CONNECTOR, BOARD TO BOARD 30P
CN2	1-691-943-21	o	CONNECTOR, BOARD TO BOARD 30P
CN3	1-774-261-11	o	CONNECTOR, FFC (ZIF) 24P
CP1	1-577-202-11	s	OSCILLATOR, CRYSTAL 36MHz
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-800-76	s	DIODE 1SS226

(TG-198N/198P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D4	8-719-800-76	s	DIODE 1SS226
D5	8-719-029-57	s	DIODE RD2.4UH-T1
D6	8-719-800-76	s	DIODE 1SS226
IC1	8-759-196-96	s	IC TC7SH08FU-TE85R
IC2	8-759-196-96	s	IC TC7SH08FU-TE85R
IC3	8-759-196-96	s	IC TC7SH08FU-TE85R
IC4	8-759-196-96	s	IC TC7SH08FU-TE85R
IC5	8-759-196-96	s	IC TC7SH08FU-TE85R
IC6	8-759-295-09	s	IC TLC2932IPW
IC8	8-759-082-59	s	IC TC7W32FU
IC10	8-759-471-96	s	IC 74VHC08MTCX
IC11	8-759-510-71	s	IC UPC358G2-E2
IC12	8-759-058-62	s	IC TC7S08FU(TE85R)
IC13	8-759-271-86	s	IC TC7SH04FU
IC14	8-759-066-68	s	IC REF-03GS
IC15	8-759-058-64	s	IC TC7S32FU(TE85R)
IC17	8-759-058-64	s	IC TC7S32FU(TE85R)
IC27	8-759-260-55	s	IC TLC272CPW-E05
IC29	8-759-082-57	s	IC TC7W04FU
IC35	8-759-058-58	s	IC TC7S04FU(TE85R)
IC36	8-759-058-62	s	IC TC7S08FU(TE85R)
IC38	8-759-058-54	s	IC TC7S00FU(TE85R)
IC39	8-759-276-00	s	IC TC7W139FU(TE12R)
IC40	8-759-058-64	s	IC TC7S32FU(TE85R)
L1	1-410-389-31	s	INDUCTOR CHIP 47UH
Q1	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q2	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q3	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q4	8-729-143-07	s	TRANSISTOR 2SA1610-YY33
Q5	8-729-143-07	s	TRANSISTOR 2SA1610-YY33
Q6	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q7	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q8	8-729-117-32	s	TRANSISTOR 2SC4177
Q9	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
R1	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R2	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R3	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R4	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R5	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R6	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R7	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R9	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R10	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for OHB-T450WS]
R11	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for OHB-T450WSP]
R12	1-218-656-11	s	METAL, CHIP 33 0.50% 1/16W
R13	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R14	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R15	1-218-681-11	s	METAL, CHIP 360 0.50% 1/16W
R16	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R18	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R19	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for OHB-T450WS]
R20	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for OHB-T450WSP]
R22	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R24	1-218-685-11	s	METAL, CHIP 510 0.50% 1/16W

(TG-198N/198P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R25	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R27	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R28	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R29	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R30	1-218-683-11	s	METAL, CHIP 430 0.50% 1/16W
R31	1-218-683-11	s	METAL, CHIP 430 0.50% 1/16W
R32	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R33	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R34	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R35	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R36	1-218-665-11	s	METAL, CHIP 75 0.50% 1/16W
R37	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R38	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R39	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R40	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R41	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R42	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R43	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R44	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R45	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R46	1-218-691-11	s	METAL, CHIP 910 0.50% 1/16W
R47	1-218-716-11	s	METAL, CHIP 10K 0.50% 1/16W
R48	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R49	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R50	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R51	1-218-704-11	s	METAL, CHIP 3.3K 0.50% 1/16W
R52	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R53	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R54	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R55	1-218-672-11	s	METAL, CHIP 150 0.50% 1/16W
R56	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for OHB-T450WSP]
R57	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for OHB-T450WSP]
R59	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R60	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R62	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R63	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R64	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R65	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R66	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R67	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R68	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R69	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R70	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R71	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R72	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R73	1-218-698-11	s	METAL, CHIP 1.8K 0.50% 1/16W
R74	1-218-686-11	s	METAL, CHIP 560 0.50% 1/16W
R75	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W
R76	1-218-728-11	s	METAL, CHIP 33K 0.50% 1/16W
R77	1-218-724-11	s	METAL, CHIP 22K 5% 1/16W
R78	1-218-718-11	s	METAL, CHIP 12K 0.50% 1/16W
R79	1-218-680-11	s	METAL, CHIP 330 0.50% 1/16W
R80	1-218-734-11	s	METAL, CHIP 56K 5% 1/16W
R81	1-218-708-11	s	METAL, CHIP 4.7K 0.50% 1/16W
R82	1-218-712-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R83	1-218-718-11	s	METAL, CHIP 12K 0.50% 1/16W
R84	1-218-703-11	s	METAL, CHIP 3K 0.50% 1/16W

(TG-198N/198P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R85	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R86	1-218-680-11	s	METAL, CHIP 330 0.50% 1/16W
R87	1-218-680-11	s	METAL, CHIP 330 0.50% 1/16W
R88	1-218-680-11	s	METAL, CHIP 330 0.50% 1/16W
R89	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R90	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R91	1-218-644-11	s	METAL, CHIP 10 0.50% 1/16W
R92	1-218-689-11	s	METAL, CHIP 750 0.50% 1/16W
R93	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R94	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R97	1-218-700-11	s	METAL, CHIP 2.2K 0.50% 1/16W
R126	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R127	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R128	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R129	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R130	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R131	1-218-668-11	s	METAL, CHIP 100 0.50% 1/16W
R150	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R151	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R152	1-218-740-11	s	METAL, CHIP 100K 0.50% 1/16W
R154	1-218-689-11	s	METAL, CHIP 750 0.50% 1/16W

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4-4. Frame List

Connector

Ref. No.	P/N	SP	Description	Name	Q'ty
CN2	1-766-722-11	o	CONNECTOR, D-SUB 29P, FEMALE	CAM BODY	1
CN3	1-573-814-11	o	CONNECTOR, D-SUB (WITH C) 29P MALE	OPT HEAD	1
CN101	1-562-221-00	s	CONNECTOR, 12P FEMALE	LENS	1
CN102	1-566-369-11	s	CONNECTOR, 12P MALE	LENS	1
	1-566-360-11	s	CONTACT, MALE AWG#26-30		12

Flexible Card Wire

To be connected	P/N	SP	Description
between CN3/IF-707 and CN3/TG-198	1-783-853-11	o	WIRE, FLEXIBLE CARD (24 CORE)
between CN3/IF-708 and CN4/CN-1504 (Camera)	1-783-854-11	s	WIRE, FLEXIBLE CARD (20 CORE)
between CN4/IF-708 and CN2/CN-1504 (Camera)	1-783-855-11	s	WIRE, FLEXIBLE CARD (24 CORE)

Housing/Contact

Destinations	Mated housing & contact			
Ref. No. /Board	P/N	SP	Description	Q'ty
CN1/CN-1634	1-565-128-11	o	HOUSING, 9P	1
	1-565-163-11	o	CONTACT FEMALE AWG#28-32	9
CN1/IF-707	1-565-129-11	o	HOUSING, 10P	1
	1-565-163-11	o	CONTACT FEMALE AWG#28-32	9
CN2/IF-707	1-764-196-11	o	HOUSING, 8P	1
	1-695-215-11	o	CONTACT, FEMALE AWG#26-30	6
CN1/IF-708	1-569-205-11	o	HOUSING, 12P	1
	1-569-194-11	o	CONTACT, FEMALE AWG#24-30	12
CN1/PA-214	1-695-212-11	o	HOUSING, 6P	1
	1-695-215-11	o	CONTACT, FEMALE AWG#26-30	6

4-5. Supplied Accessories

Ref. No. or Q'ty	P/N	SP	Description
1pc	A-8269-296-A	o	MOUNTED CIRCUIT BOARD, PR-212
1pc	1-575-041-21	o	CABLE ASSY (29 PIN)
1pc	3-692-192-01	s	LABEL(2), FILTER
3pcs	7-682-545-04	s	SCREW +B 3×4

4-6. Optional Fixtures

P/N	SP	Description
A-8315-489-A	o	MOUNTED CIRCUIT BOARD, CN-1504
J-6026-130-B	o	GRAYSCALE CHART (TRANSPARENT)
J-6029-140-B	o	PATTERN BOX, PTB-500
J-6394-110-A	o	TOOL, IC SOCKET FRAME REMOVING
J-6395-100-A	o	TOOL, OHB FIXING
J-6470-270-A	o	IF-707 EXTENSION HARNESS
J-6470-280-A	o	INSTALLATION TOOL FOR BUSHING
1-775-780-11	s	WIRE, FLEXIBLE CARD (24-CORE)
1-783-854-11	s	WIRE, FLEXIBLE CARD (20-CORE)
1-783-855-11	s	WIRE, FLEXIBLE CARD (24-CORE)

4-7. Changed Parts

NOTE: The numbers identified by marking with) are matching with each serial numbers.
See the table matched with each serial numbers.

807) Serial No. 10051-10060, 10091-(UC), 30016-(J), 40021-(CE)
812) Serial No. 10091-(UC), 30026-(J), 40041-(CE)

IF-707 BOARD
---

812)	R200	1-216-295-11 s CONDUCTOR, CHIP 0	---> DELETED

IF-708N/708P BOARD
---

812)	C6	NOT IN USE.	---> 1-162-923-11 s CERAMIC, CHIP 47PF 5% 50V
812)	IC17	8-759-058-58 s IC TC7S04FU (TE85R)	---> 8-759-271-86 s IC TC7SH04FU
807)	IC33	NOT IN USE.	---> 8-759-058-58 s IC TC7S04FU(TE85R)
812)	R14	1-218-644-11 s METAL, CHIP 10 0.50% 1/16W	---> 1-218-676-11 s METAL, CHIP 220 0.50% 1/16W
807)	R230	NOT IN USE.	---> 1-216-864-11 s METAL, CHIP 0 5% 1/16W
807)	R231	1-216-864-11 s METAL, CHIP 0 5% 1/16W	---> DELETED

PA-214 BOARD
---

812)	R31	1-218-718-11 s METAL, CHIP 12K 0.50% 1/16W	---> 1-218-716-11 s METAL, CHIP 10K 0.50% 1/16W
812)	R32	1-218-690-11 s METAL, CHIP 820 0.50% 1/16W	---> 1-216-864-11 s METAL, CHIP 0 0.50% 1/16W
812)	R72	1-218-718-11 s METAL, CHIP 12K 0.50% 1/16W	---> 1-218-716-11 s METAL, CHIP 10K 0.50% 1/16W
807)	R73	1-218-690-11 s METAL, CHIP 820 0.50% 1/16W	---> 1-216-864-11 s METAL, CHIP 0 0.50% 1/16W
807)	R111	1-218-718-11 s METAL, CHIP 12K 0.50% 1/16W	---> 1-218-716-11 s METAL, CHIP 10K 0.50% 1/16W
807)	R112	1-218-690-11 s METAL, CHIP 820 0.50% 1/16W	---> 1-216-864-11 s METAL, CHIP 0 0.50% 1/16W

Section 5
Semiconductor Pin Assignments

ここに記載されている半導体は，それぞれの機能を等価的に表したものです。　なお，互換性のない型名を併記していることがありますので，部品を交換するときは，Spare Partsの章を参照してください。
等価回路はICメーカーのデータブックに従いました。

Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

DIODE **Page**

1S2835-T1 5-2
1S2836 5-2
1S2837-T1 5-2
1SS123-T1 5-2
1SS184 5-2
1SS226 5-2
1SS300-TE85L 5-2

HSM107S 5-2
HSM107S-TL 5-2

RD2.4UH-T1 5-2
RD3.3UH(1)-T1 5-2
RD3.3UH-T1 5-2
RD3.6UH-T1 5-2
RD4.3UH-T1 5-2
RD6.2M-B 5-2
RD6.2M-T1B 5-2

TRANSISTOR **Page**

2SA1162G 5-2
2SA1226-E4 5-2
2SA1226-T1E3E4 5-2
2SA1610-T1Y34 5-2
2SA1610-Y33 5-2
2SA1611-M5M6 5-2
2SA1611-M6 5-2
2SA1611-T1M7 5-2
2SA1611T1-M5M6 5-2
2SA812-T1M7 5-2
2SB1114-T1ZL 5-2
2SB1121-ST 5-2
2SB624-BV345 5-2
2SB624-T1BV4 5-2
2SC1623 5-2
2SC1623-T1-L5L6 5-2
2SC4176-B34 5-2
2SC4176T1B33B34B35 ... 5-2
2SC4177-L6 5-2
2SC4177-T1L5L6 5-2
2SC4178-F13F14-T1 5-2
2SC4178-F14 5-2
2SD596-T1DV4 5-2
2SD596DV345 5-2
2SK508-T1K53 5-2
2SK620 5-2
2SK620-TX 5-2

IC **Page**

27LV256-20I/L 5-2

74VHC08MTCX 5-2

BA10358F-E2 5-2

CLC505AJE 5-3
CLC505AJE-T 5-3
CXA1439M 5-3
CXA1439M-TH 5-3
CXD2422R 5-3
CXD303-102R 5-4
CXD305-101R 5-4
CXD8095Q 5-5
CXK1203AR 5-6
CXK1203AR-T4 5-6

LM35DM 5-4
LM35DMX 5-4

M62352GP 5-6
M62352GP-75ED 5-6
MC74HC4053DTR2 5-4

PCF8574T-T 5-7

REF-03GSR 5-7

SN74HC08APW-E05 5-2
SN74HC574APW-E05 5-7
SN74HC574APW-E20 5-7

TC74AC04F-EL 5-7
TC74AC86F 5-7
TC74HC4053AFT(EL) 5-4
TC74VHC04FT(EL) 5-7
TC74VHC08FT(EL) 5-2
TC7S00FU(TE85R) 5-8
TC7S04FU(TE85R) 5-8
TC7S08FU(TE85R) 5-8
TC7S32FU(TE85R) 5-8
TC7S66FU 5-8
TC7S66FU(TE85R) 5-8
TC7SH00FU-TE85R 5-8
TC7SH04FU 5-8
TC7SH04FU-TE85R 5-8
TC7SH08FU-TE85R 5-8
TC7SH32FU-TE85R 5-8
TC7SH86FU-TE85R 5-8
TC7W04FU(TE12R) 5-8

IC **Page**

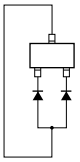
TC7W08FU 5-8
TC7W08FU(TE12R) 5-8
TC7W139FU(TE12R) 5-8
TC7W32FU 5-9
TC7W32FU(TE12R) 5-9
TC7W74FU 5-9
TC7W74FU(TE12R) 5-9
TC7WH74FU(TR12R) 5-9
TL062CPW 5-9
TL062CPW-E05 5-9
TL064CNS 5-9
TL064CNS-E05 5-9
TLC272CPW-E05 5-9
TLC274CPW 5-9
TLC274CPW-E05 5-9
TLC27L2CPS 5-9
TLC27L2CPS-E05 5-9
TLC2932IPW 5-10
TLC2932IPW-E05 5-10
TLC372CPW-E05 5-9
TLC374CPW-E20 5-9
TSC426C0A 5-10
TSC426C0A-T2 5-10

UPC358G2-E2 5-2
UPC4572G2-E2 5-2
UPD16502GS(1) 5-10
UPD16502GS(1)-E2 5-10

X24164SIC7000 5-10
X24164SIT1 5-10
XRD7523AID-JTR 5-10

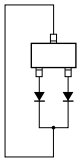
DIODE

—TOP VIEW—



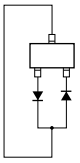
1S2835-T1
1S2836
1SS300-TE85L

—TOP VIEW—



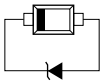
1S2837-T1
1SS184

—TOP VIEW—



1SS123-T1
1SS226
HSM107S
HSM107S-TL

—TOP VIEW—



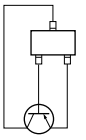
RD2.4UH-T1
RD3.3UH(1)-T1
RD3.3UH-T1
RD3.6UH-T1
RD4.3UH-T1

—TOP VIEW—

RD6.2M-B
RD6.2M-T1B

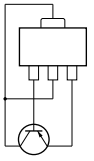
TRANSISTOR

—TOP VIEW—



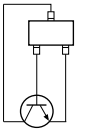
2SA1162G
2SA1226-E4
2SA1226-T1E3E4
2SA1610-T1Y34
2SA1610-Y33
2SA1611-M5M6
2SA1611-M6
2SA1611-T1M7
2SA1611T1-M5M6
2SA812-T1M7
2SB624-BV345
2SB624-T1BV4

—TOP VIEW—



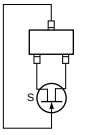
2SB1114-T1ZL
2SB1121-ST

—TOP VIEW—



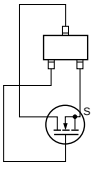
2SC1623
2SC1623-T1-L5L6
2SC4176-B34
2SC4176T1B33B34B35
2SC4177-L6
2SC4177-T1L5L6
2SC4178-F13F14-T1
2SC4178-F14
2SD596-T1DV4
22SD596DV345

—TOP VIEW—



2SK508-T1K53

—TOP VIEW—



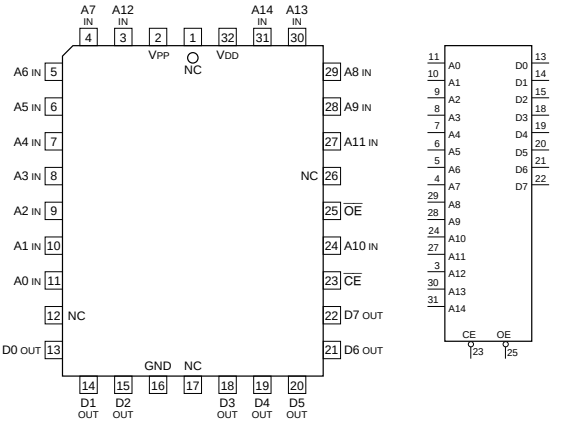
2SK620
2SK620-TX

IC

27LV256-20I/L (MICROCHIP)

C-MOS 256 K (32 K × 8)-BIT EPROM

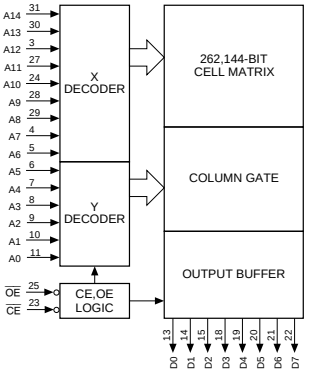
—TOP VIEW—



A0 - A14 : ADDRESS INPUT
$\overline{CE}$: CHIP ENABLE INPUT
D0 - D7 : DATA OUTPUT
$\overline{OE}$: OUTPUT ENABLE INPUT
VPP : PROGRAM POWER SUPPLY

MODES	$\overline{CE}$	$\overline{OE}$	VPP	A9	D0 - D7
Read	0	0	+5 V	X	Dout
Program	0	1	+13 V	X	Din
Program Verify	1	0	+13 V	X	Dout
Program Inhibit	1	1	+13 V	X	HI-Z
Standby	1	X	+5 V	X	HI-Z
Output Disable	0	1	+5 V	X	HI-Z
Identity	0	0	+5 V	+13 V	Identity Code

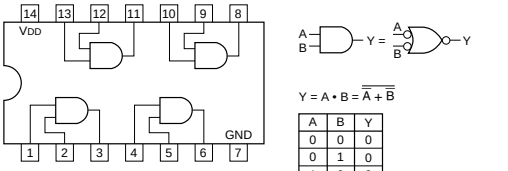
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE



74VHC08MTCX (NS)FLAT PACKAGE
SN74HC08APW-E05 (TI)FLAT PACKAGE
TC74VHC08FT(EL) (TOSHIBA)FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATES

—TOP VIEW—



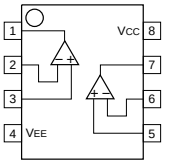
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

BA10358F-E2 (ROHM)FLAT PACKAGE
UPC358G2-E2
UPC4572G2-E2 (NEC)FLAT PACKAGE

DUAL OPERATIONAL AMPLIFIERS
(SINGLE-SUPPLY TYPE)

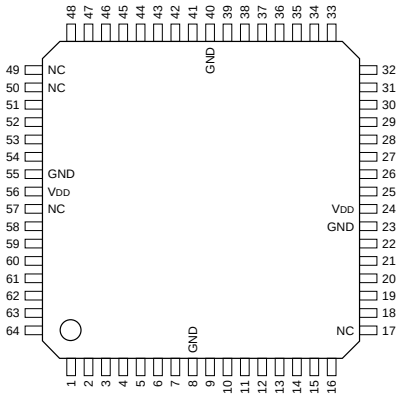
—TOP VIEW—



CXD2422R (SONY)

C-MOS TIMING GENERATOR FOR CCD CAMERA

—TOP VIEW—



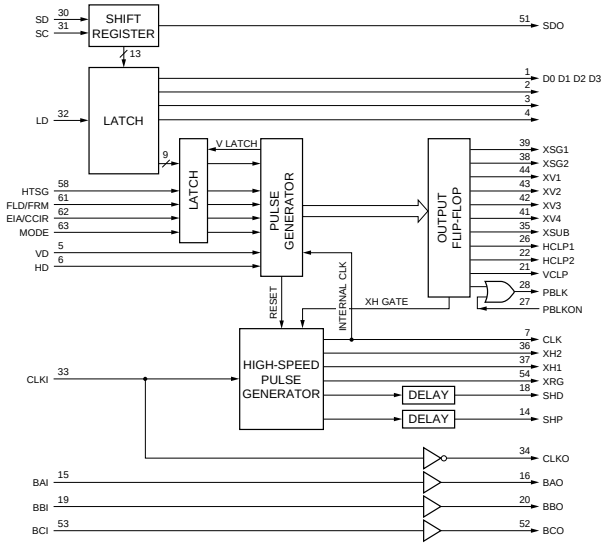
PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	O	D0	17	—	NC	33	I	CLKI	49	—	NC
2	O	D1	18	O	SHD	34	O	CLKO	50	—	NC
3	O	D2	19	I	BBI	35	O	XSUB	51	O	SDO
4	O	D3	20	O	BBO	36	O	XH2	52	O	BCO
5	I	VD	21	O	VCLP	37	O	XH1	53	I	BCI
6	I	HD	22	O	HCLP2	38	O	XSG2	54	O	XRG
7	O	CLK	23	—	GND	39	O	XSG1	55	—	GND
8	—	GND	24	—	VDD	40	—	GND	56	—	VDD
9	I	TEST1	25	I	TEST6	41	O	XV4	57	—	NC
10	I	TEST2	26	O	HCLP1	42	O	XV3	58	I	HTSG
11	I	TEST3	27	I	PBLKON	43	O	XV2	59	I	RST
12	I	TEST4	28	O	PBLK	44	O	XV1	60	I	TEST12
13	I	TEST5	29	I	TEST7	45	O	TEST8	61	I	FLD/FRM
14	O	SHP	30	I	SD	46	O	TEST9	62	I	EIA/CCIR
15	I	BAI	31	I	SC	47	O	TEST10	63	I	MODE
16	O	BAO	32	I	LD	48	O	TEST11	64	I	TEST13

INPUT

BAI	:	BUFFER INPUT FOR SHP PHASE ADJUSTMENT
BBI	:	BUFFER INPUT FOR SHD PHASE ADJUSTMENT
BCI	:	BUFFER INPUT FOR XRG PHASE ADJUSTMENT
CLKI	:	CLOCK
EIA/CCIR	:	SYSTEM SELECT (H:EIA/L:CCIR)
FLD/FRM	:	MODE SELECT (H:FIELD CHARGE/L:FRAME CHARGE)
HD	:	HORIZONTAL DRIVE
HTSG	:	ON/OFF CONTROL FOR READ PULSE
LD	:	LATCH PULSE FOR ELECTRONIC SHUTTER CONTROL
MODE	:	MODE SELECT (H:COMPONENT DIGITAL/L:COMPOSITE DIGITAL)
PBLKON	:	ON/OFF CONTROL FOR PBLK
RST	:	FOR TEST
SC	:	CLOCK FOR ELECTROM\NIC SHUTTER CONTROL
SD	:	SERIAL DATA FOR ELECTRONIC SHUTTER CONTROL
TEST1 - TEST7	:	FOR TEST
TEST12, TEST13	:	FOR TEST
VD	:	VERTICAL DRIVE

OUTPUT

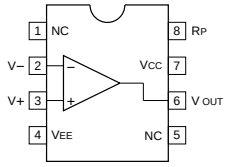
BAO	:	NOT-INVERTED OUTPUT OF BAI
BBO	:	NOT-INVERTED OUTPUT OF BBI
BCO	:	NOT-INVERTED OUTPUT OF BCI
CLK	:	DIVIDED-BY-TWO CLOCK (PIN-33)
CLKO	:	INVERTED OUTPUT OF CLKI
D0 - D3	:	EXPANSION I/O
HCLP1 - HCLP2	:	HORIZONTAL CLAMP PULSE
PBLK	:	PRE-BLANKING PULSE
SDO	:	SERIAL DATA FOR ELECTRONIC SHUTTER CONTROL
SHD	:	SAMPLING PULSE FOR CCD'S SIGNAL LEVEL
SHP	:	SAMPLING PULSE FOR CCD'S PRE-CHARGE LEVEL
TEST8 - TEST11	:	FOR TEST
VCLP	:	VERTICAL CLAMP PULSE
XH1, XH2	:	HORIZONTAL REGISTER DRIVE CLOCK
XRG	:	OUTPUT SECTION RESET GATE PULSE
XSG1, XSG2	:	SENSOR'S ELECTRON CHARGE READ PULSE
XSUB	:	SUBSTRATE PULSE FOR ELECTRONIC SHUTTER
XV1 - XV4	:	VERTICAL REGISTER DRIVE CLOCK



CLC505AJE (COMLINEAR)FLAT PACKAGE
CLC505AJE-T

OPERATIONAL AMPLIFIER

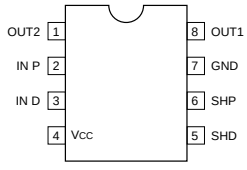
—TOP VIEW—

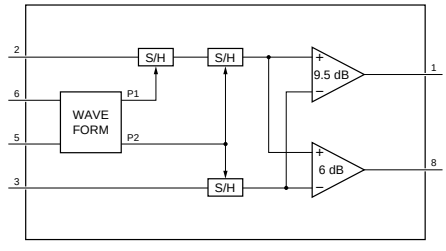


CXA1439M (SONY)FLAT PACKAGE
CXA1439M-TH

CORRELATED DOUBLE SAMPLING

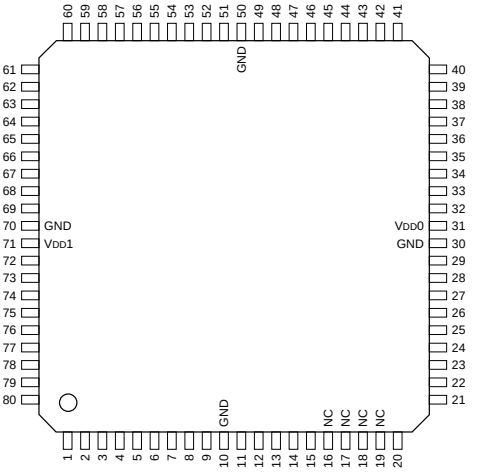
—TOP VIEW—





CXD303-102R (SONY)

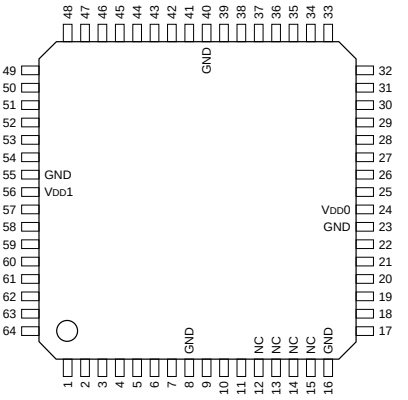
C-MOS SYSTEM CONTROLLER
—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	O	POS29	21	O	HBLKG	41	I	RDAT7	61	O	POS14
2	O	POS210	22	O	RCK1	42	O	RXCS	62	O	POS15
3	O	OE1	23	O	RCK2	43	O	RADR0	63	O	POS16
4	O	OE2	24	O	RCK3	44	O	RADR1	64	O	POS17
5	I	SCL	25	O	AWB	45	O	RADR2	65	O	POS18
6	I/O	SDA	26	O	DITH	46	O	RADR3	66	O	POS19
7	I	HD	27	I/O	EXIO	47	O	RADR4	67	O	POS110
8	I	VD	28	I	TEST	48	O	RADR5	68	O	FICK1
9	I	CLOCK	29	O	COEF0	49	O	RADR6	69	O	FICK2
10	—	GND	30	—	GND	50	—	GND	70	—	GND
11	O	AD2HD	31	—	VDD0	51	O	RADR7	71	—	VDD1
12	O	AS2VD	32	O	COEF1	52	O	RADR8	72	O	POS20
13	O	ADPBLKG	33	I	RESET	53	O	RADR9	73	O	POS21
14	O	MRCF	34	I	RDAT0	54	O	RADR10	74	O	POS22
15	O	MNR	35	I	RDAT1	55	O	RADR11	75	O	POS23
16	—	NC	36	I	RDAT2	56	O	RADR12	76	O	POS24
17	—	NC	37	I	RDAT3	57	O	POS10	77	O	POS25
18	—	NC	38	I	RDAT4	58	O	POS11	78	O	POS26
19	—	NC	39	I	RDAT5	59	O	POS12	79	O	POS27
20	—	GND	40	I	RDAT6	60	O	POS13	80	O	POS28

CXD305-101R (SONY)

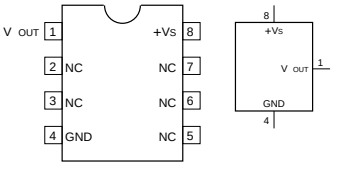
C-MOS SIGNAL PROCESSOR
—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	MIXIN0	17	I	IN0	33	I	DATA4	49	I	ARDTIN
2	I	MIXIN1	18	I	IN1	34	I	DATA5	50	I	BLKGI
3	I	MIXIN2	19	I	IN2	35	I	DATA6	51	I	OC
4	I	MIXIN3	20	I	IN3	36	I	DATA7	52	O	OUT9
5	I	MIXIN4	21	I	IN4	37	I	TSTEN	53	O	OUT8
6	O	MIXOUT0	22	I	IN5	38	I	COEFSEL1	54	O	OUT7
7	O	MIXOUT1	23	—	GND	39	I	COEFSEL0	55	—	GND
8	—	GND	24	—	VDD0	40	—	GND	56	—	VDD1
9	O	MIXOUT2	25	I	IN6	41	I	MCK	57	O	OUT6
10	O	MIXOUT3	26	I	IN7	42	I	NRLEV3	58	O	OUT5
11	O	MIXOUT4	27	I	IN8	43	I	NRLEV2	59	O	OUT4
12	—	NC	28	I	IN9	44	I	NRLEV1	60	O	OUT3
13	—	NC	29	I	DATA0	45	I	NRLEV0	61	O	OUT2
14	—	NC	30	I	DATA1	46	I	RCK	62	O	OUT1
15	—	NC	31	I	DATA2	47	I	NREN	63	O	OUT0
16	—	GND	32	I	DATA3	48	I	RCFEN	64	O	ARDTOUT

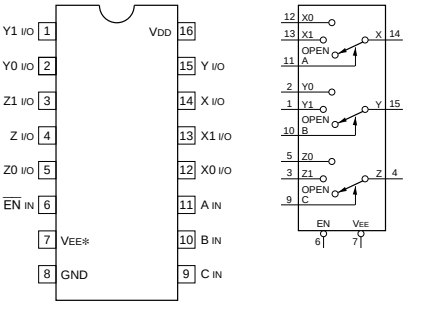
LM35DM (NS)FLAT PACKAGE
LM35DMX

TEMPERATURE SENSOR
—TOP VIEW—



MC74HC4053DTR2 (MOTOROLA)FLAT PACKAGE
TC74HC4053AFT(EL) (TOSHIBA)FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
—TOP VIEW—



VEE* : VDD – VEE = +3 V to +12 V
VEE ≦ GND

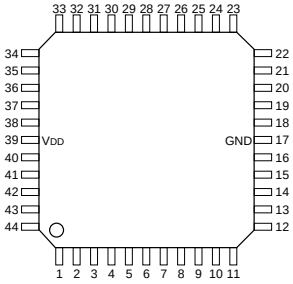
CONTROL INPUTS				ON CHANNEL		
EN	SELECT					
	C	B	A			
0	0	0	0	Z0	Y0	X0
0	0	0	1	Z0	Y0	X1
0	0	1	0	Z0	Y1	X0
0	0	1	1	Z0	Y1	X1
0	1	0	0	Z1	Y0	X0
0	1	0	1	Z1	Y0	X1
0	1	1	0	Z1	Y1	X0
0	1	1	1	Z1	Y1	X1
1	×	×	×	OPEN		

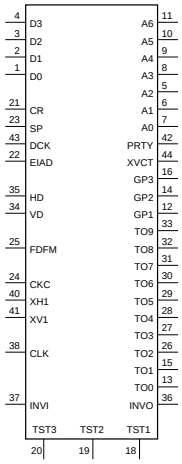
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE

CXD8095Q (SONY)FLAT PACKAGE

C-MOS GATE ARRAY

—TOP VIEW—





PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL
1	I	D0	12	O	GP1	23	I	SP	34	I	VD
2	I	D1	13	O	TO0	24	I	CKC	35	I	HD
3	I	D2	14	O	GP2	25	I	FDFM	36	O	INVO
4	I	D3	15	O	TO1	26	O	TO2	37	I	INVI
5	I/O	A2	16	O	GP3	27	O	TO3	38	I	CLK
6	I/O	A1	17	—	GND	28	O	TO4	39	—	VDD
7	I/O	A0	18	I	TST1	29	O	TO5	40	I	XH1
8	I/O	A3	19	I	TST2	30	O	TO6	41	I	XV1
9	O	A4	20	I	TST3	31	O	TO7	42	O	PRTY
10	O	A5	21	I	CR	32	O	TO8	43	I	DCK
11	O	A6	22	I	EIAD	33	O	TO9	44	O	XVCT

INPUT

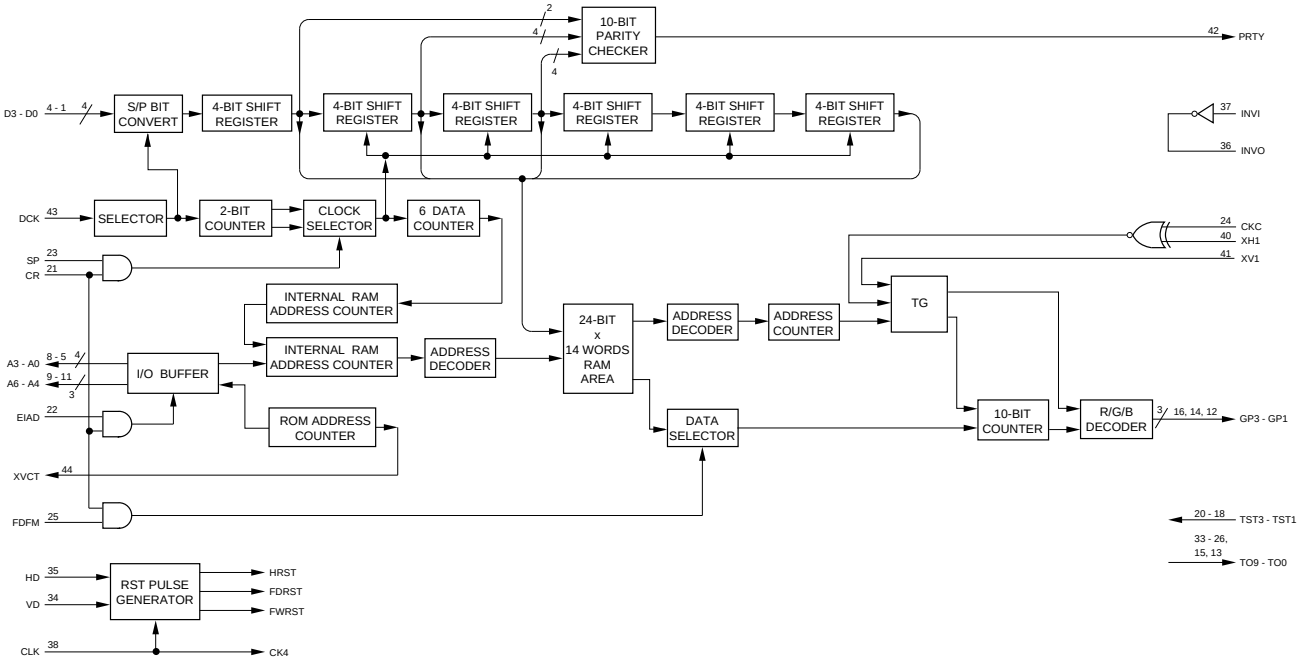
CKC	:	XH1 ACTIVE EDGE DECISION
CLK	:	SYSTEM CLOCK
CR	:	COMPENSATION DATA SELECT (H : μ-COM MODE, L : NORMAL MODE)
D0-D3	:	4-BIT PARALLEL DATA
DCK	:	DATA INPUTS STROBE PULSE
EIAD	:	H : EXT ADDRESS, L : INT ADDRESS
FDFM	:	FRAME READ/FIELD READ : SWITCH (H : FIELD READ)
HD	:	HORIZONTAL DRIVE
INVI	:	INVERTER
SP	:	INPUT DATA SERIAL/PARALLEL SWITCH (H : SERIAL)
TST1 - TST3	:	TEST MODE SELECT
VD	:	VERTICAL DRIVE
XH1	:	CLOCK FOR COMPENSATION DATA
XV1	:	LINE COUNTER INPUT TERMINAL

OUTPUT

A4 - A6	:	DATA ADDRESS
GP1 - GP3	:	GATE PULSE FOR COMPENSATION DATA (R, G, B-CH)
INVO	:	INVERTER
PRTY	:	12-BIT DATA PARITY CHECK (H : EVEN)
TO0 - TO9	:	TEST TERMINAL FOR INTERNAL DATA OUTPUTS
XVCT	:	ROM POWER VOLTAGE CONTROL TERMINAL

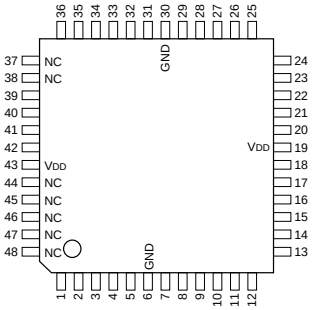
INPUT/OUTPUT

A0 - A3	:	DATA ADDRESS OUTPUTS (DATA ADDRESS INPUTS ; μ-COM MODE)



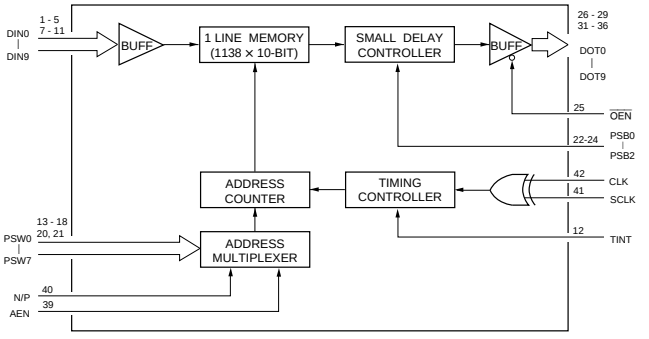
CXK1203AR (SONY)
CXK1203AR-T4

C-MOS DIGITAL LINE MEMORY
—TOP VIEW—



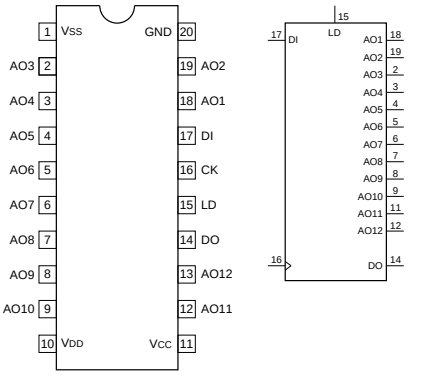
PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	D0	13	I	PSW7	25	I	$\overline{OEN}$	37	—	NC
2	I	D1	14	I	PSW6	26	O	DOT9	38	—	NC
3	I	D2	15	I	PSW5	27	O	DOT8	39	I	AEN
4	I	D3	16	I	PSW4	28	O	DOT7	40	I	N/P
5	I	D4	17	I	PSW3	29	O	DOT6	41	I	SCLK
6	—	GND	18	I	PSW2	30	—	GND	42	I	CLK
7	I	D5	19	—	VDD	31	O	DOT5	43	—	VDD
8	I	D6	20	I	PSW1	32	O	DOT4	44	—	NC
9	I	D7	21	I	PSW0	33	O	DOT3	45	—	NC
10	I	D8	22	I	PSB2	34	O	DOT2	46	—	NC
11	I	D9	23	I	PSB1	35	O	DOT1	47	—	NC
12	I	TINT	24	I	PSB0	36	O	DOT0	48	—	NC

AEN : LINE MEMORY SELECT
CLK : CLOCK
DIN0 - DIN9 : VIDEO DATA INPUT
DOT0 - DOT9 : VIDEO DATA OUTPUT
N/P : NTSC/PAL/SECAM SELECT
OEN : OUTPUT ENABLE
PSB0 - PSB2 : DELAY STEP SELECT (1-BITxN)
PSW0 - PSW7 : DELAY STEP SELECT (8-BITxN)
SCLK : CLOCK EDGE SELECT
TINT : TEST



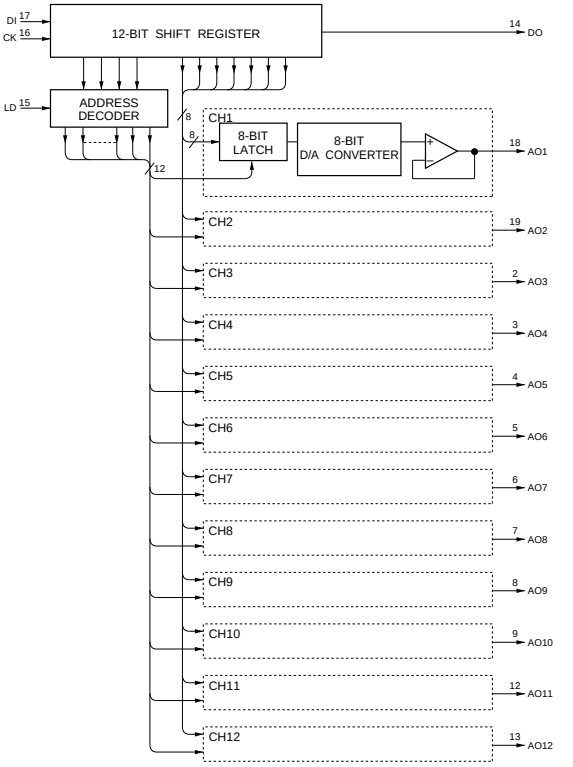
M62352GP (MITSUBISHI)FLAT PACKAGE
M62352GP-75ED

C-MOS 8-BIT × 12 CHANNEL D/A CONVERTER
(WITH BUFFER OPERATIONAL AMPLIFIER)
—TOP VIEW—



AO1 - AO12 : 8-BIT D/A OUTPUTS
CK : CLOCK INPUT
DI : SERIAL DATA INPUT
DO : DATA OUTPUT

NOTE:
3.5 V < VDD < VCC
−3.5 V < VSS < VCC

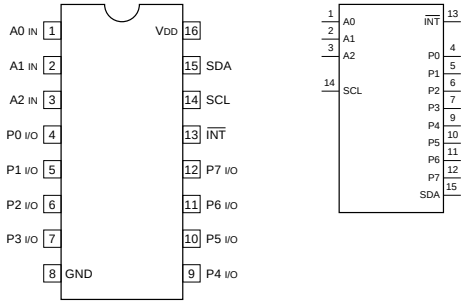


http://getMANUAL.com

PCF8574T-T (PHILIPS)

C-MOS REMOTE 8-BIT I/O EXPANDER

—TOP VIEW—



INPUT

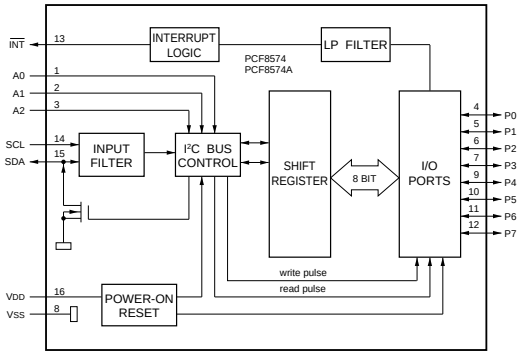
A0 - A2 ; ADDRESS INPUTS
SCL ; SYSTEM CLOCK LINE

OUTPUT

$\overline{INT}$; INTERRUPT OUTPUT
SDA ; SERIAL DATA LINE

INPUT/OUTPUT

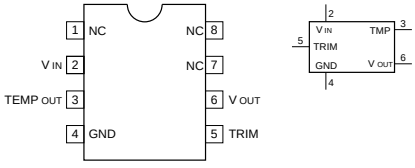
P0 - P7 ; 8-BITS QUASI-BIDIRECTIONAL I/O PORT



REF-03GSR (PMI)FLAT PACKAGE

REFERENCE/TEMPERATURE TRANSDUCER

—TOP VIEW—

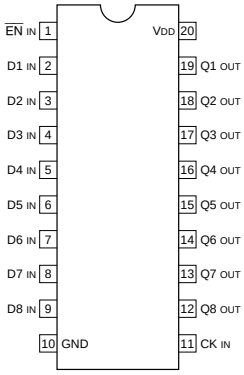


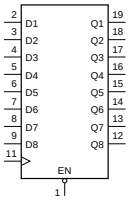
V IN ; INPUT VOLTAGE (+4.5V to +33V)
TEMP OUT ; TEMPERATURE TRANSDUCER VOLTAGE OUTPUT
TRIM IN ; OUTPUT SIGNAL TRIMMING
V OUT ; OUTPUT VOLTAGE (+2.5V)

SN74HC574APW-E05
SN74HC574APW-E20 (TI)

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP

—TOP VIEW—

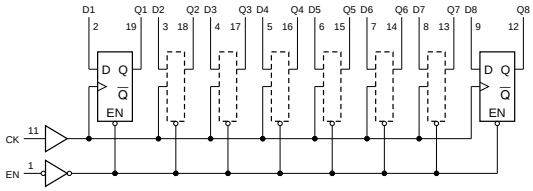




EACH FLIP-FLOP

INPUTS			OUT
EN	CK	D	Q
0	↑	1	1
0	↑	0	0
0	↓	×	Q_0
1	×	×	HI-Z

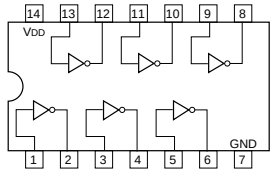
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE
Q_0 : NONSTABLE

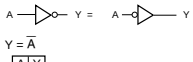


TC74AC04F-EL (TOSHIBA)FLAT PACKAGE
TC74VHC04FT(EL) (TOSHIBA)

C-MOS HEX INVERTERS

—TOP VIEW—





$Y = \overline{A}$

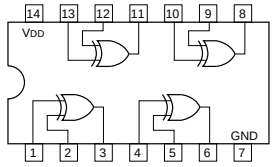
A	Y
0	1
1	0

0 : LOW LEVEL
1 : HIGH LEVEL

TC74AC86F (TOSHIBA)FLAT PACKAGE

C-MOS QUAD EXCLUSIVE OR GATES

—TOP VIEW—



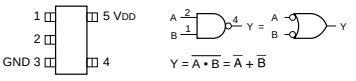
$Y = \overline{A} \cdot B + A \cdot \overline{B}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

TC7S00FU(TE85R) (TOSHIBA)CHIP PACKAGE
TC7SH00FU-TE85R (TOSHIBA)FLAT PACKAGE

C-MOS 2-INPUT NAND GATE
—TOP VIEW—

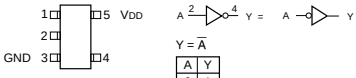


A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

TC7S04FU(TE85R) (TOSHIBA)FLAT PACKAGE
TC7SH04FU (TOSHIBA)CHIP PACKAGE
TC7SH04FU-TE85R

C-MOS INVERTER
—TOP VIEW—

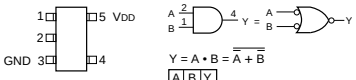


A	Y
0	1
1	0

0 : LOW LEVEL
1 : HIGH LEVEL

TC7S08FU(TE85R) (TOSHIBA)FLAT PACKAGE
TC7SH08FU-TE85R (TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT AND GATE
—TOP VIEW—

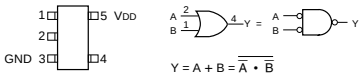


A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

TC7S32FU(TE85R) (TOSHIBA)FLAT PACKAGE
TC7SH32FU-TE85R (TOSHIBA)FLAT PACKAGE

C-MOS 2-INPUT OR GATE
—TOP VIEW—

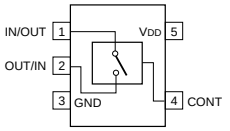


A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

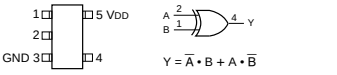
TC7S66FU (TOSHIBA)
TC7S66FU(TE85R)

C-MOS ANALOG SWITCH
—TOP VIEW—



TC7SH86FU-TE85R (TOSHIBA)FLAT PACKAGE

C-MOS 2-INPUT EXCLUSIVE OR GATE
—TOP VIEW—

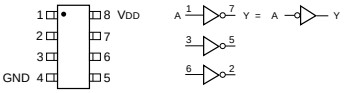


A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

TC7W04FU(TE12R) (TOSHIBA)FLAT PACKAGE

C-MOS HEX INVERTERS
—TOP VIEW—

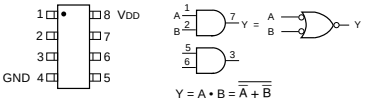


A	Y
0	1
1	0

0 : LOW LEVEL
1 : HIGH LEVEL

TC7W08FU (TOSHIBA)CHIP PACKAGE
TC7W08FU(TE12R)

C-MOS 2-INPUT AND GATE
—TOP VIEW—

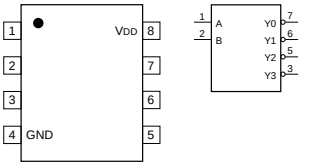


A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

TC7W139FU(TE12R) (TOSHIBA)CHIP PACKAGE

C-MOS 2 to 4 LINE DECODER WITH ENABLE
—TOP VIEW—

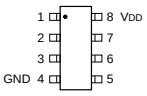


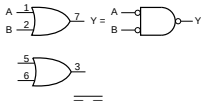
INPUTS		OUTPUTS				SELECTED OUTPUT
SELECT						
B	A	$\overline{Y0}$	$\overline{Y1}$	$\overline{Y2}$	$\overline{Y3}$	
0	0	0	1	1	1	$\overline{Y0}$
0	1	1	0	1	1	$\overline{Y1}$
1	0	1	1	0	1	$\overline{Y2}$
1	1	1	1	1	0	$\overline{Y3}$

0 : LOW LEVEL
1 : HIGH LEVEL

TC7W32FU (TOSHIBA)CHIP PACKAGE
TC7W32FU(TE12R)

C-MOS DUAL 2-INPUT OR GATE
—TOP VIEW—





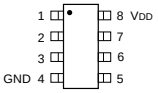
$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

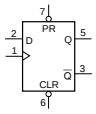
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

TC7W74FU (TOSHIBA)CHIP PACKAGE
TC7W74FU(TE12R)
TC7WH74FU(TR12R) (TOSHIBA)CHIP PACKAGE

C-MOS D-TYPE FLIP-FLOPS WITH PRESET AND CLEAR
—TOP VIEW—



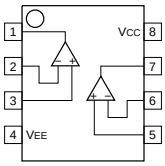


INPUTS				OUTPUTS		FUNCTION
CLR	PR	CK	D	Qn+1	Qn+1	
0	1	×	×	0	1	CLEAR
1	0	×	×	1	0	PRESET
0	0	×	×	1	1	–
1	1	↑	0	0	1	–
1	1	↑	1	1	0	–
1	1	↓	×	Qn	$\overline{Qn}$	NO CHANGE

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE

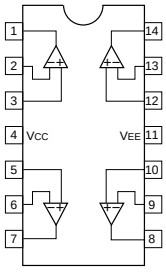
TL062CPW (TI)FLAT PACKAGE
TL062CPW-E05

DUAL OPERATIONAL AMPLIFIERS
(DUAL-SUPPLY TYPE)
—TOP VIEW—



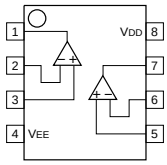
TL064CNS (TI)FLAT PACKAGE
TL064CNS-E05

OPERATIONAL AMPLIFIER
(J FET INPUT)
—TOP VIEW—



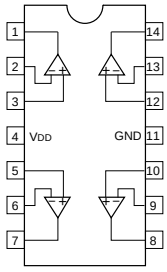
TLC272CPW-E05 (TI)FLAT PACKAGE
TLC27L2CPS (TI)FLAT PACKAGE
TLC27L2CPS-E05

C-MOS DUAL OPERATIONAL AMPLIFIERS
(SINGLE-SUPPLY TYPE)
—TOP VIEW—



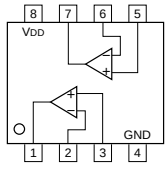
TLC274CPW (TI)FLAT PACKAGE
TLC274CPW-E05

C-MOS OPERATIONAL AMPLIFIER
—TOP VIEW—



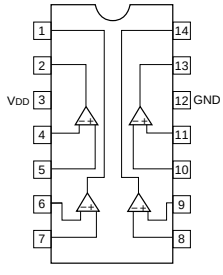
TLC372CPW-E05 (TI)FLAT PACKAGE

C-MOS COMPARATOR
—TOP VIEW—



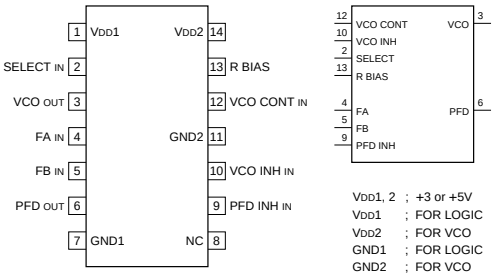
TLC374CPW-E20 (TI)FLAT PACKAGE

QUAD COMPARATOR
—TOP VIEW—

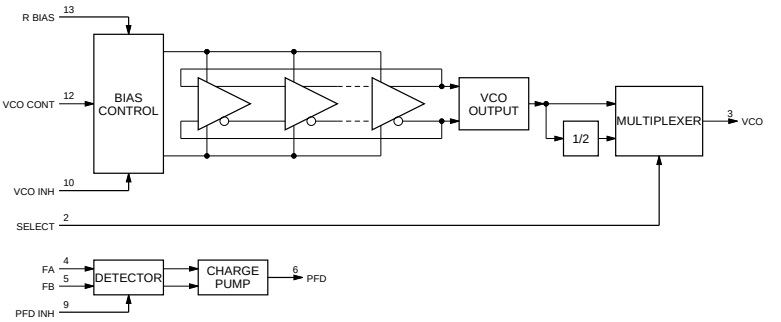


TLC2932IPW (TI)
TLC2932IPW-E05

C-MOS VCO AND PHASE FREQUENCY DETECTOR
—TOP VIEW—



VDD1, 2 ; +3 or +5V
VDD1 ; FOR LOGIC
VDD2 ; FOR VCO
GND1 ; FOR LOGIC
GND2 ; FOR VCO



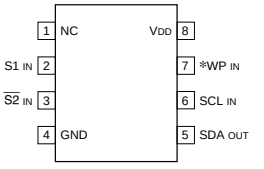
INPUT
FA ; REFERENCE FREQUENCY
FB ; INPUT FREQUENCY FROM OUTSIDE COUNTER
PFD INH ; PFD INHIBIT
SELECT ; VCO OUTPUT FREQUENCY SELECT
VCO CONT ; VCO CONTROL VOLTAGE
VCO INH ; VCO INHIBIT

OUTPUT
PFD ; PHASE FREQUENCY DETECTOR
VCO ; VOLTAGE CONTROLLED OSCILLATOR

OTHER
R BIAS ; BIAS RESISTOR FOR VCO OSCILLATION FREQUENCY SETTING

X24164SIC7000 (XICOR)(16 K-BIT)FLAT PACKAGE
X24164SIT1

C-MOS SERIAL EEPROM
—TOP VIEW—



INPUT
S1, S2 : DEVICE SELECT
SCL : SERIAL CLOCK
WC : WRITE CONTROL
WP : WRITE PROTECT

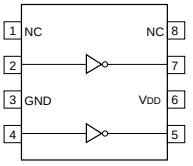
OUTPUT
SDA : SERIAL DATA

*NOTE :

TYPE	PIN 7
NM24C16	NC
X24C02	WC
X24C04	TEST
X24164	TEST
X24645	WP

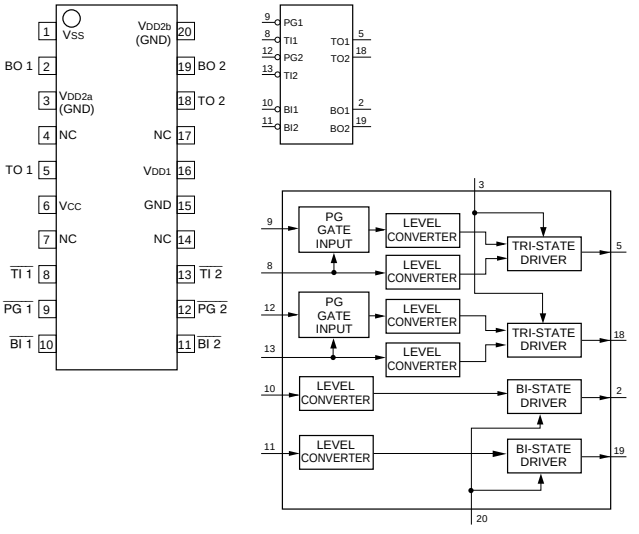
TSC426C0A (TELEDYNE)FLAT PACKAGE
TSC426C0A-T2

C-MOS HIGH SPEED DUAL DRIVER
—TOP VIEW—



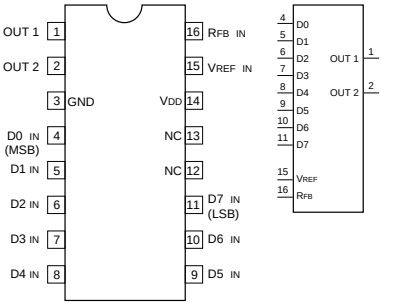
UPD16502GS(1) (NEC)FLAT PACKAGE
UPD16502GS(1)-E2

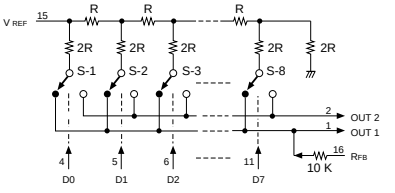
C-MOS CCD DRIVER
—TOP VIEW—



XRD7523AID-JTR (EXAR)FLAT PACKAGE

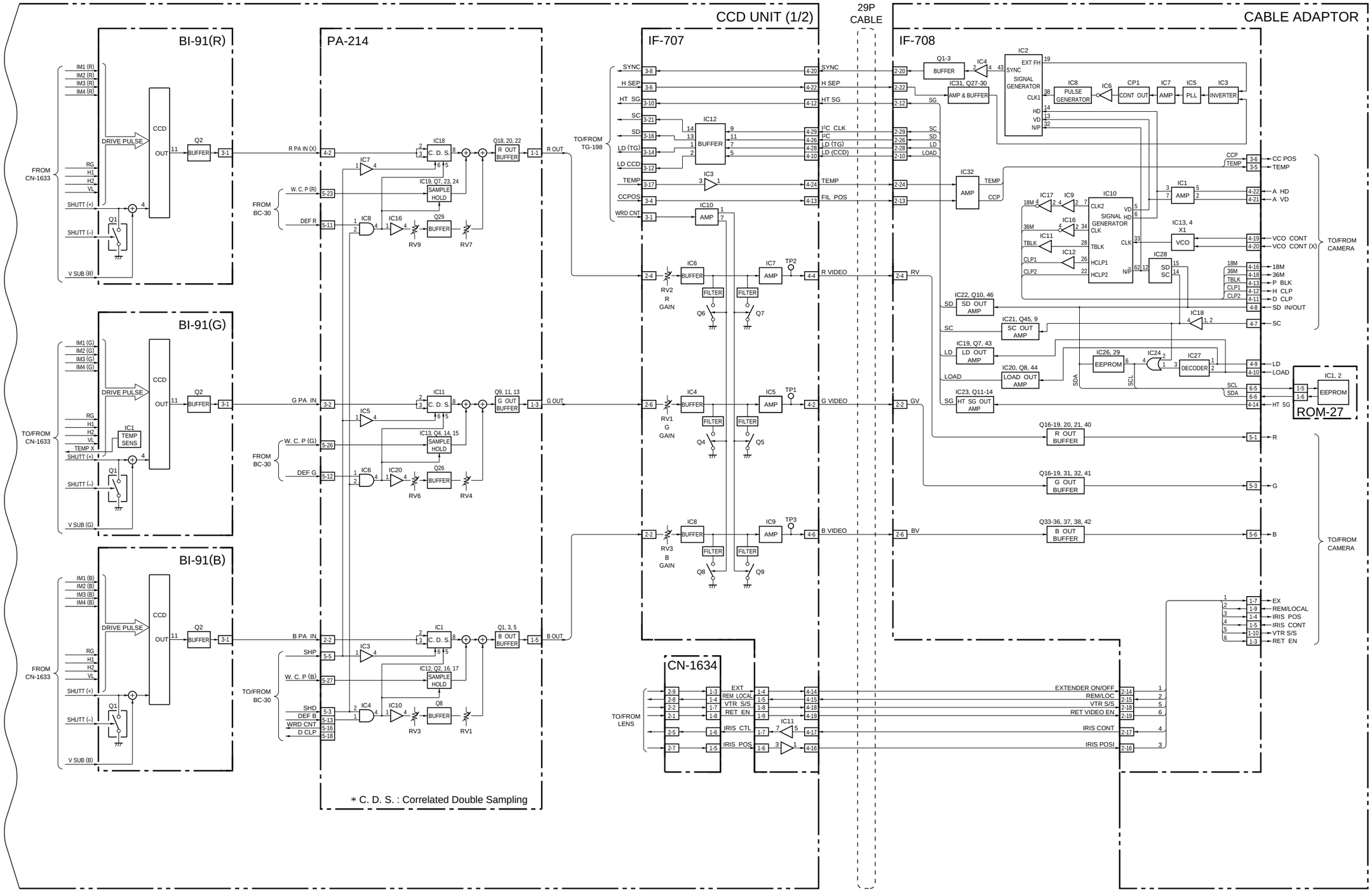
C-MOS 8-BIT D/A CONVERTER
—TOP VIEW—





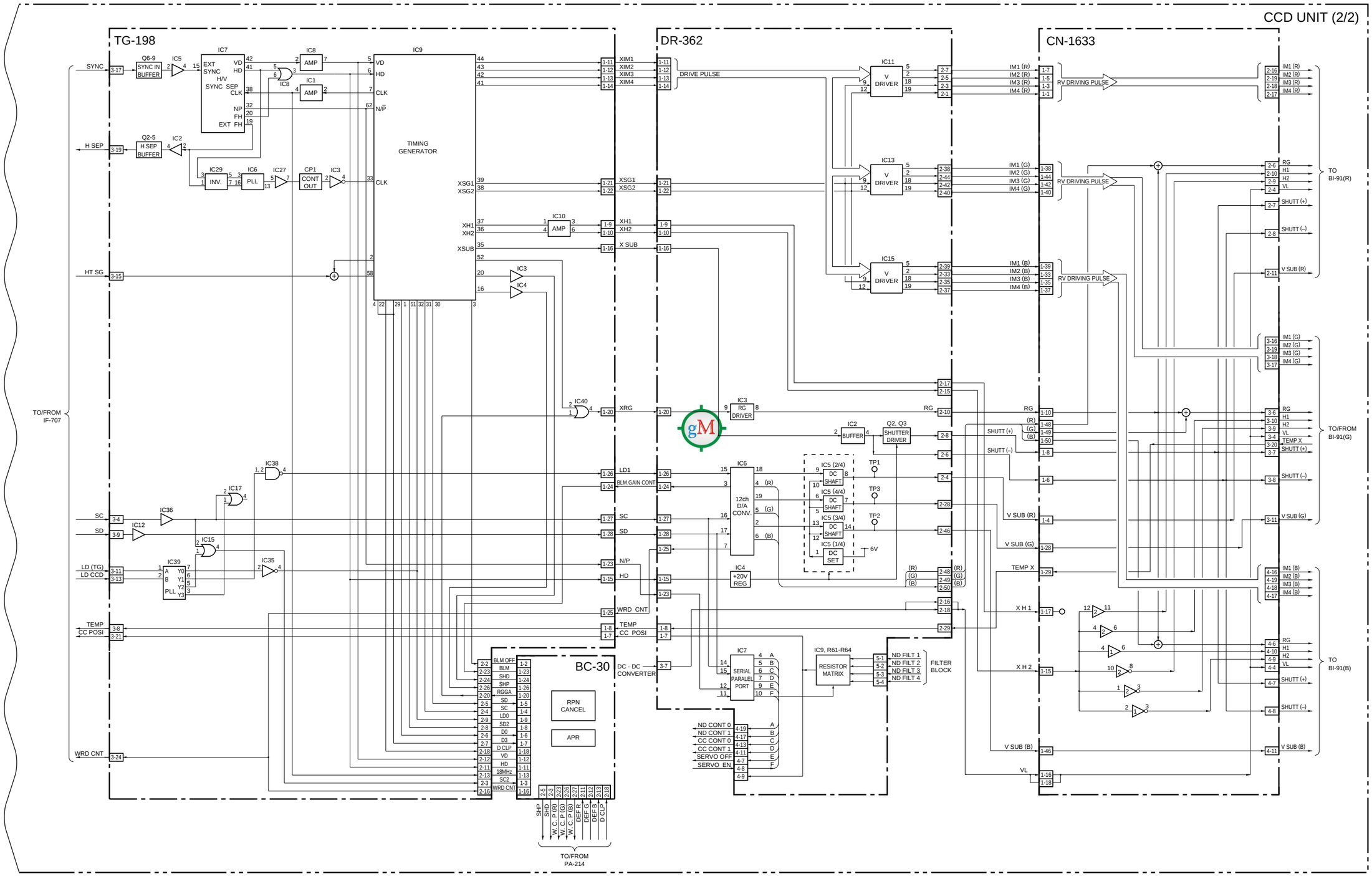
MP7523 : R = 10 K
XRD7523 : R = 20 K

Section 6
Block Diagram



Overall (1/2)

OHBT450WS OVERALL BLOCK#1/M



Overall (2/2)

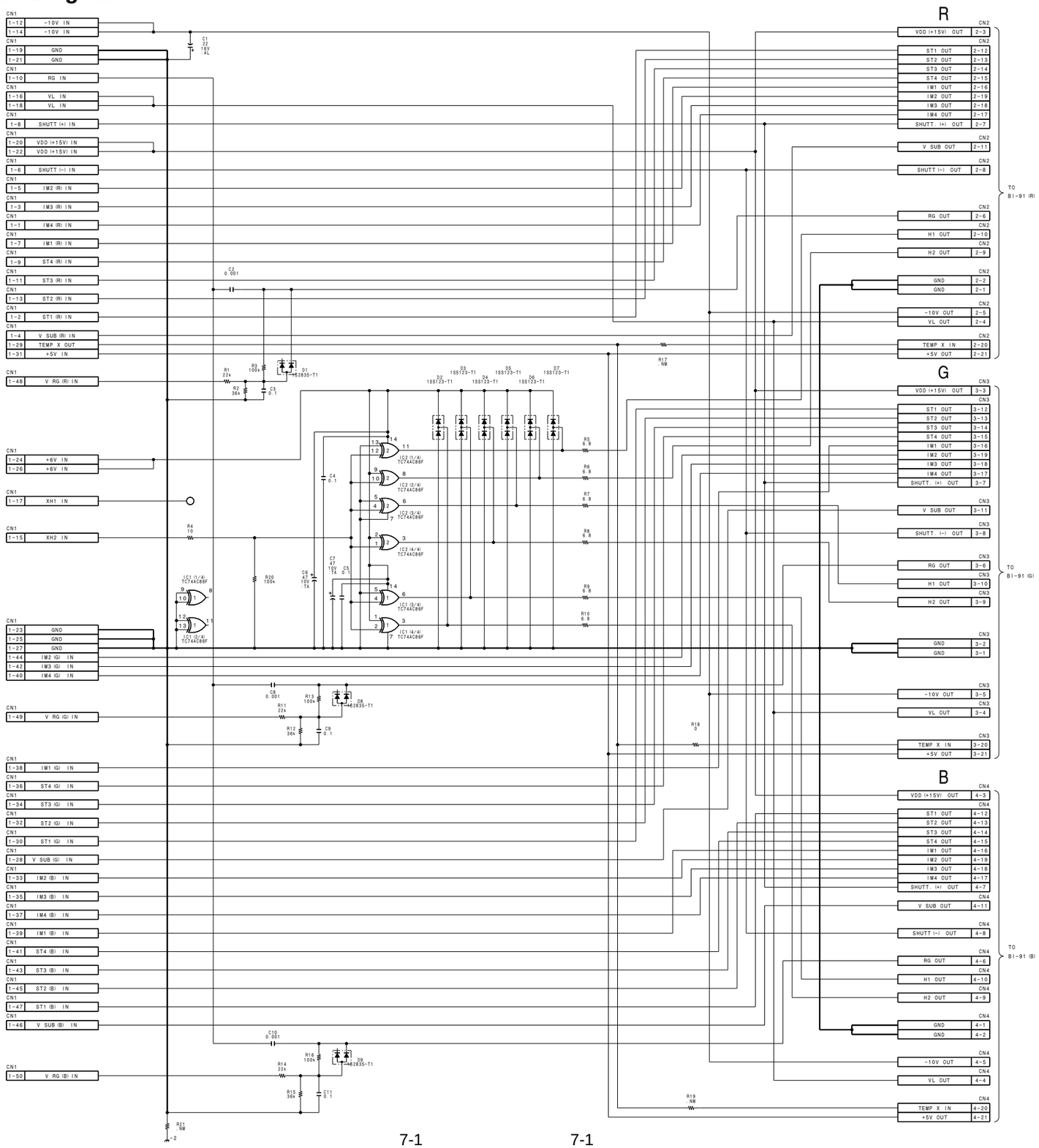
OHBT450WS OVERALL BLOCK#2/M

Section 7
Schematic Diagrams

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)

CN1/CN-1633

Pin	I/O	Destinations
1	I	CN2-1/DR-362
2	I	CN2-2/DR-362
3	I	CN2-3/DR-362
4	I	CN2-4/DR-362
5	I	CN2-5/DR-362
6	I	CN2-6/DR-362
7	I	CN2-7/DR-362
8	I	CN2-8/DR-362
9	I	CN2-9/DR-362
10	I	CN2-10/DR-362
11	I	CN2-11/DR-362
12	I	CN2-12/DR-362
13	I	CN2-13/DR-362
14	I	CN2-14/DR-362
15	I	CN1-10/TG-198
16	I	CN2-16/DR-362
17	I	CN1-9/TG-198
18	I	CN2-18/DR-362
20	I	CN2-20/DR-362
22	I	CN2-22/DR-362
24	I	CN2-24/DR-362
26	I	CN2-26/DR-362
28	I	CN2-28/DR-362
29	O	CN1-8/TG-198
30	I	CN2-30/DR-362
31	I	CN2-31/DR-362
32	I	CN2-32/DR-362
33	I	CN2-33/DR-362
34	I	CN2-34/DR-362
35	I	CN2-35/DR-362
36	I	CN2-36/DR-362
37	I	CN2-37/DR-362
38	I	CN2-38/DR-362
39	I	CN2-39/DR-362
40	I	CN2-40/DR-362
41	I	CN2-41/DR-362
42	I	CN2-42/DR-362
43	I	CN2-43/DR-362
44	I	CN2-44/DR-362
45	I	CN2-45/DR-362
46	I	CN2-46/DR-362
47	I	CN2-47/DR-362
48	I	CN2-48/DR-362
49	I	CN2-49/DR-362
50	I	CN2-50/DR-362



CN2/CN-1633

Pin	I/O	Destinations
3	O	CN1-3/BI-91 (R)
4	O	CN1-4/BI-91 (R)
5	O	CN1-5/BI-91 (R)
6	O	CN1-6/BI-91 (R)
7	O	CN1-7/BI-91 (R)
8	O	CN1-8/BI-91 (R)
9	O	CN1-9/BI-91 (R)
10	O	CN1-10/BI-91 (R)
11	O	CN1-11/BI-91 (R)
12	O	CN1-12/BI-91 (R)
13	O	CN1-13/BI-91 (R)
14	O	CN1-14/BI-91 (R)
15	O	CN1-15/BI-91 (R)
16	O	CN1-16/BI-91 (R)
17	O	CN1-17/BI-91 (R)
18	O	CN1-18/BI-91 (R)
19	O	CN1-19/BI-91 (R)
20	I	CN1-20/BI-91 (R)
21	O	CN1-21/BI-91 (R)

CN3/CN-1633

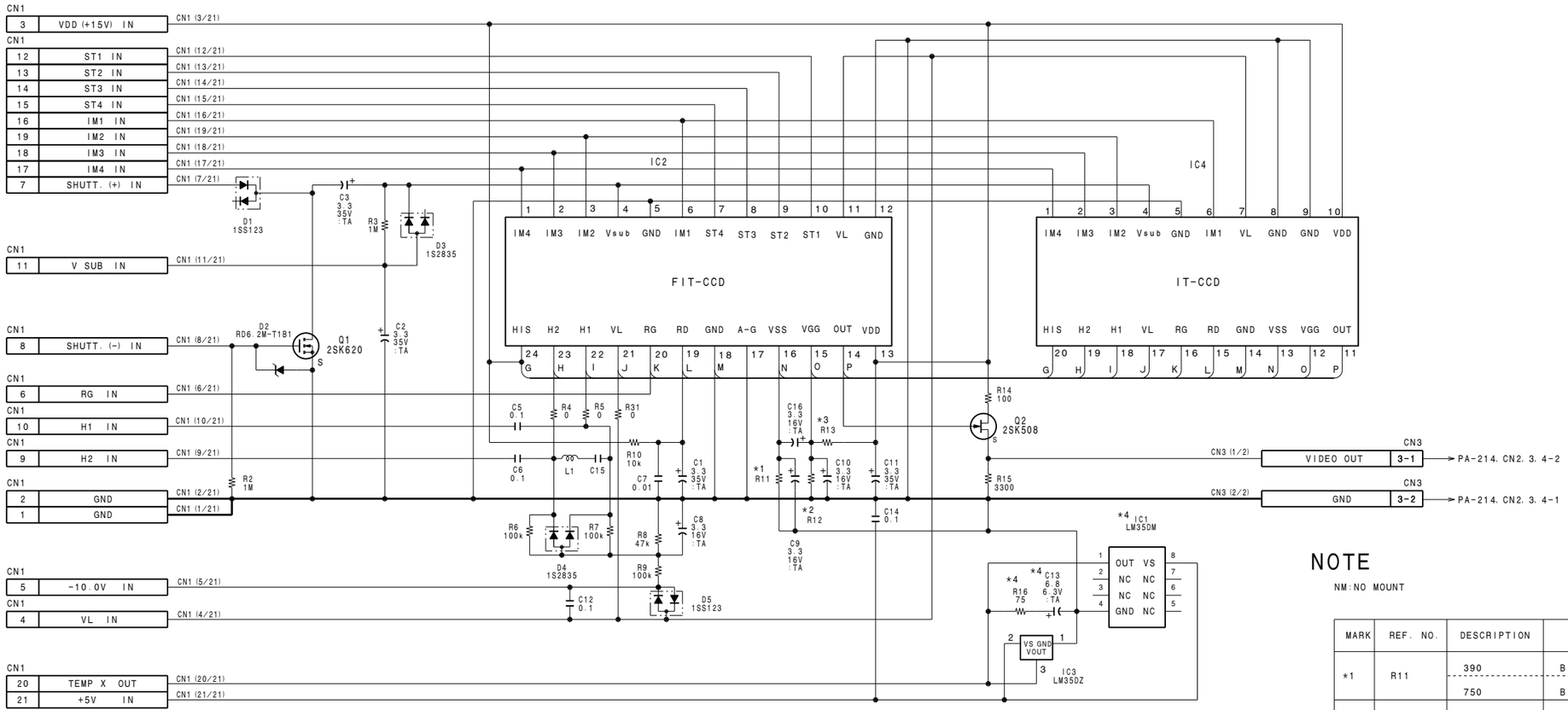
Pin	I/O	Destinations
3	O	CN1-3/BI-91 (G)
4	O	CN1-4/BI-91 (G)
5	O	CN1-5/BI-91 (G)
6	O	CN1-6/BI-91 (G)
7	O	CN1-7/BI-91 (G)
8	O	CN1-8/BI-91 (G)
9	O	CN1-9/BI-91 (G)
10	O	CN1-10/BI-91 (G)
11	O	CN1-11/BI-91 (G)
12	O	CN1-12/BI-91 (G)
13	O	CN1-13/BI-91 (G)
14	O	CN1-14/BI-91 (G)
15	O	CN1-15/BI-91 (G)
16	O	CN1-16/BI-91 (G)
17	O	CN1-17/BI-91 (G)
18	O	CN1-18/BI-91 (G)
19	O	CN1-19/BI-91 (G)
20	I	CN1-20/BI-91 (G)
21	O	CN1-21/BI-91 (G)

CN4/CN-1633

Pin	I/O	Destinations
3	O	CN1-3/BI-91 (B)
4	O	CN1-4/BI-91 (B)
5	O	CN1-5/BI-91 (B)
6	O	CN1-6/BI-91 (B)
7	O	CN1-7/BI-91 (B)
8	O	CN1-8/BI-91 (B)
9	O	CN1-9/BI-91 (B)
10	O	CN1-10/BI-91 (B)
11	O	CN1-11/BI-91 (B)
12	O	CN1-12/BI-91 (B)
13	O	CN1-13/BI-91 (B)
14	O	CN1-14/BI-91 (B)
15	O	CN1-15/BI-91 (B)
16	O	CN1-16/BI-91 (B)
17	O	CN1-17/BI-91 (B)
18	O	CN1-18/BI-91 (B)
19	O	CN1-19/BI-91 (B)
20	I	CN1-20/BI-91 (B)
21	O	CN1-21/BI-91 (B)

CN-1633
BOARD NO. 1-669-637-11
LOT NO. 801-
B-¥OHBT450WS-CN1633-11@

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)



CN1/BI-91

Pin	I/O	Destinations
3	O	DC-DC CONVERTER
4	O	CN2-16,18/DR-362
5	O	CN2-12,14/DR-362
6	O	CN2,3,4-6/CN-1633
7	O	CN2-8/DR-362
8	O	CN2-6/DR-362
9	O	CN2,3,4-9/CN-1633
10	O	CN2,3,4-10/CN-1633
11	O	CN2-4,28,46/DR-362
12	O	CN2-2,30,47/DR-362
13	O	CN2-13,32,45/DR-362
14	O	CN2-11,34,43/DR-362
15	O	CN2-9,36,41/DR-362
16	O	CN2-7,38,39/DR-362
17	O	CN2-1,37,40/DR-362
18	O	CN2-3,35,42/DR-362
19	O	CN2-5,33,44/DR-362
20	I	CN2,3,4-20/CN-1633
21	O	CN2-31/DR-362

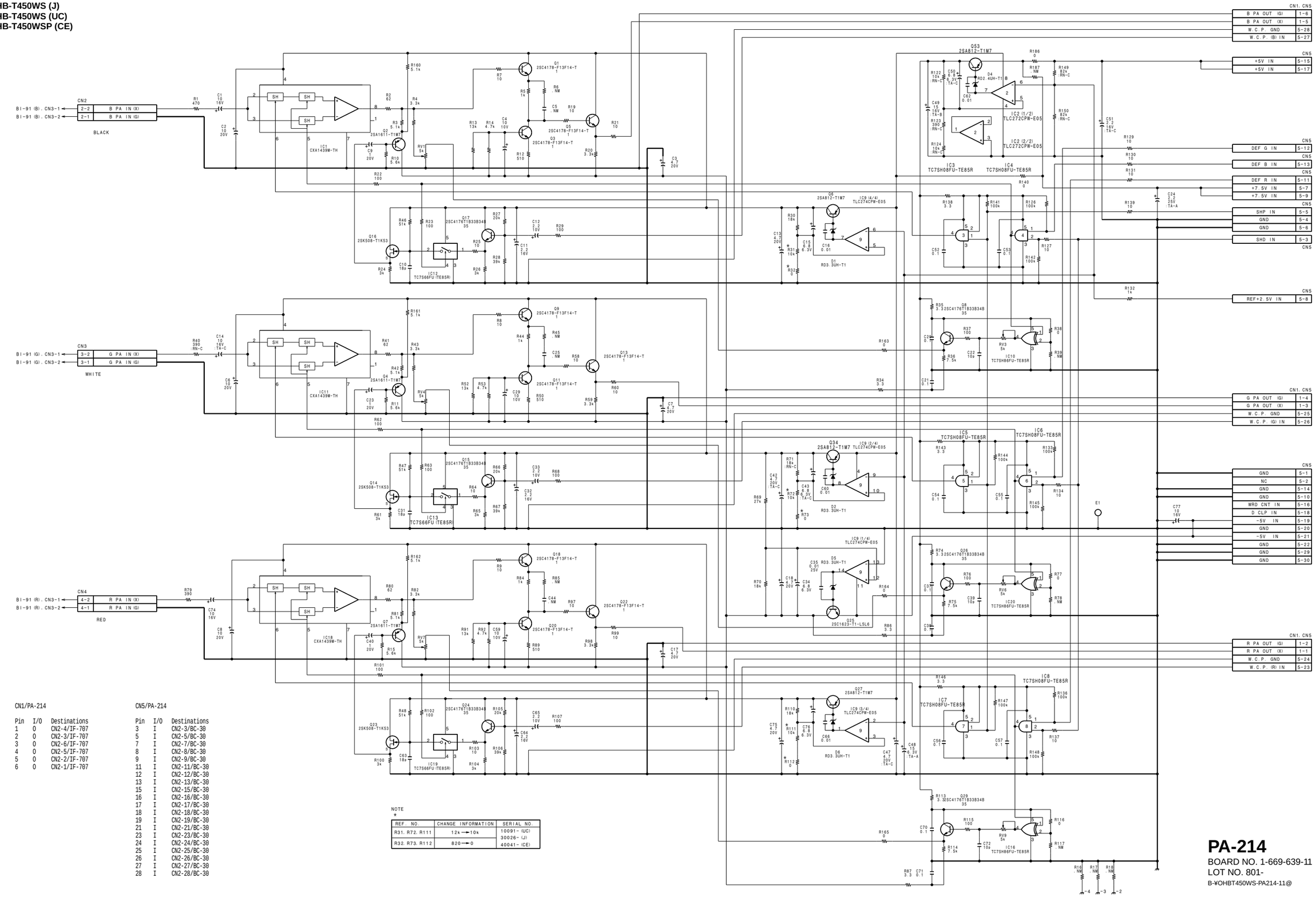
NOTE

NM:NO MOUNT

MARK	REF. NO.	DESCRIPTION	BOARD
*1	R11	390	BI-91R/91G/91B
		750	BI-91FR/91FG/91FB
*2	R12	5.6K	BI-91R/91G/91B
		13K	BI-91FR/91FG/91FB
*3	R13	36K	BI-91R/91G/91B
		33K	BI-91FR/91FG/91FB
*4	C13 IC1 R16	NM	BI-91R/91B BI-91FR/91FB

BI-91
BOARD NO. 1-657-431-12
LOT NO. 801-
B-¥OHB550-BI91G/M

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)



CN1/PA-214

Pin	I/O	Destinations
1	O	CN2-4/IF-707
2	O	CN2-3/IF-707
3	O	CN2-6/IF-707
4	O	CN2-5/IF-707
5	O	CN2-2/IF-707
6	O	CN2-1/IF-707

CN5/PA-214

Pin	I/O	Destinations
3	I	CN2-3/BC-30
5	I	CN2-5/BC-30
7	I	CN2-7/BC-30
8	I	CN2-8/BC-30
9	I	CN2-9/BC-30
11	I	CN2-11/BC-30
12	I	CN2-12/BC-30
13	I	CN2-13/BC-30
15	I	CN2-15/BC-30
16	I	CN2-16/BC-30
17	I	CN2-17/BC-30
18	I	CN2-18/BC-30
19	I	CN2-19/BC-30
21	I	CN2-21/BC-30
23	I	CN2-23/BC-30
24	I	CN2-24/BC-30
25	I	CN2-25/BC-30
26	I	CN2-26/BC-30
27	I	CN2-27/BC-30
28	I	CN2-28/BC-30

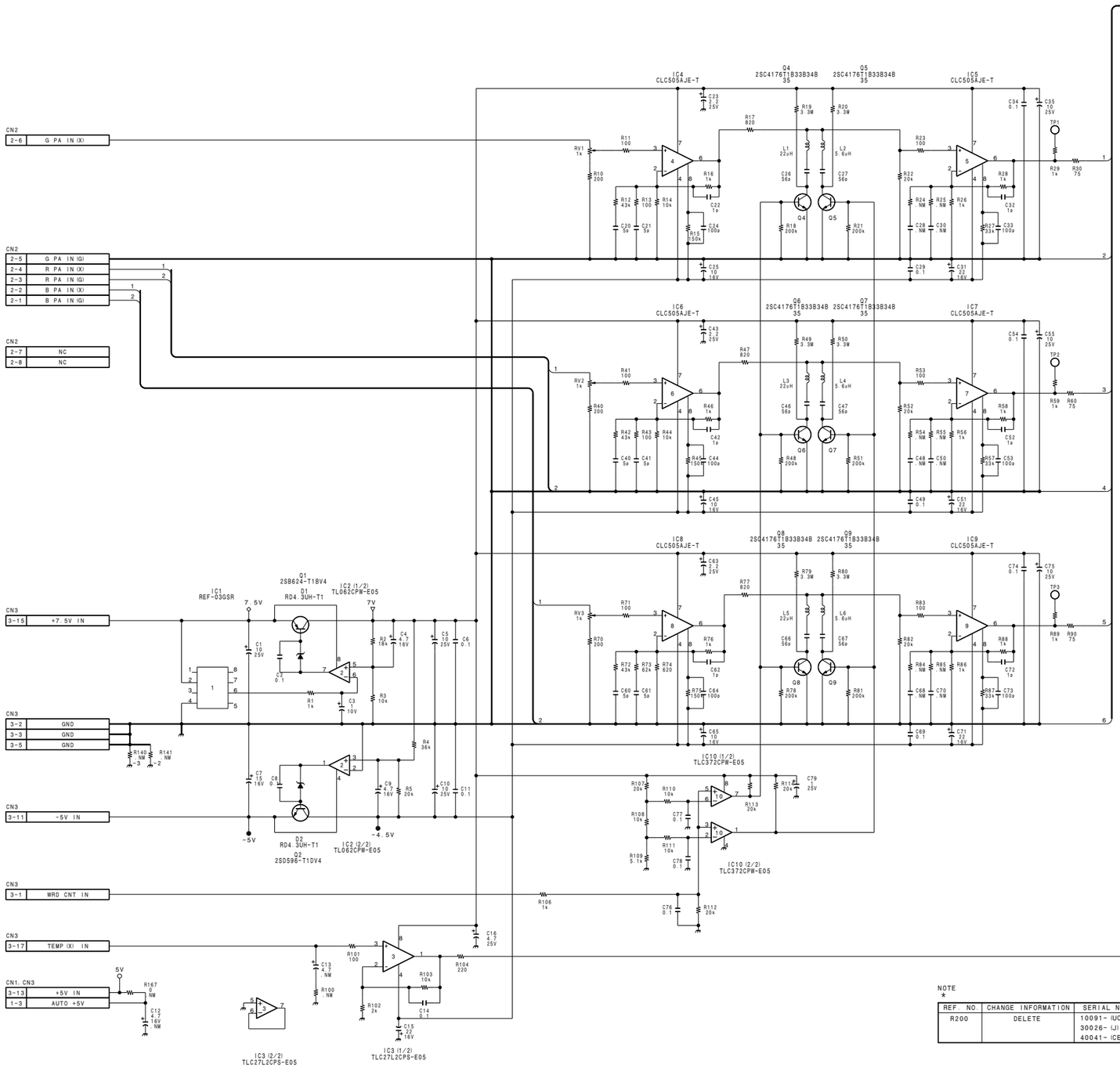
NOTE
★

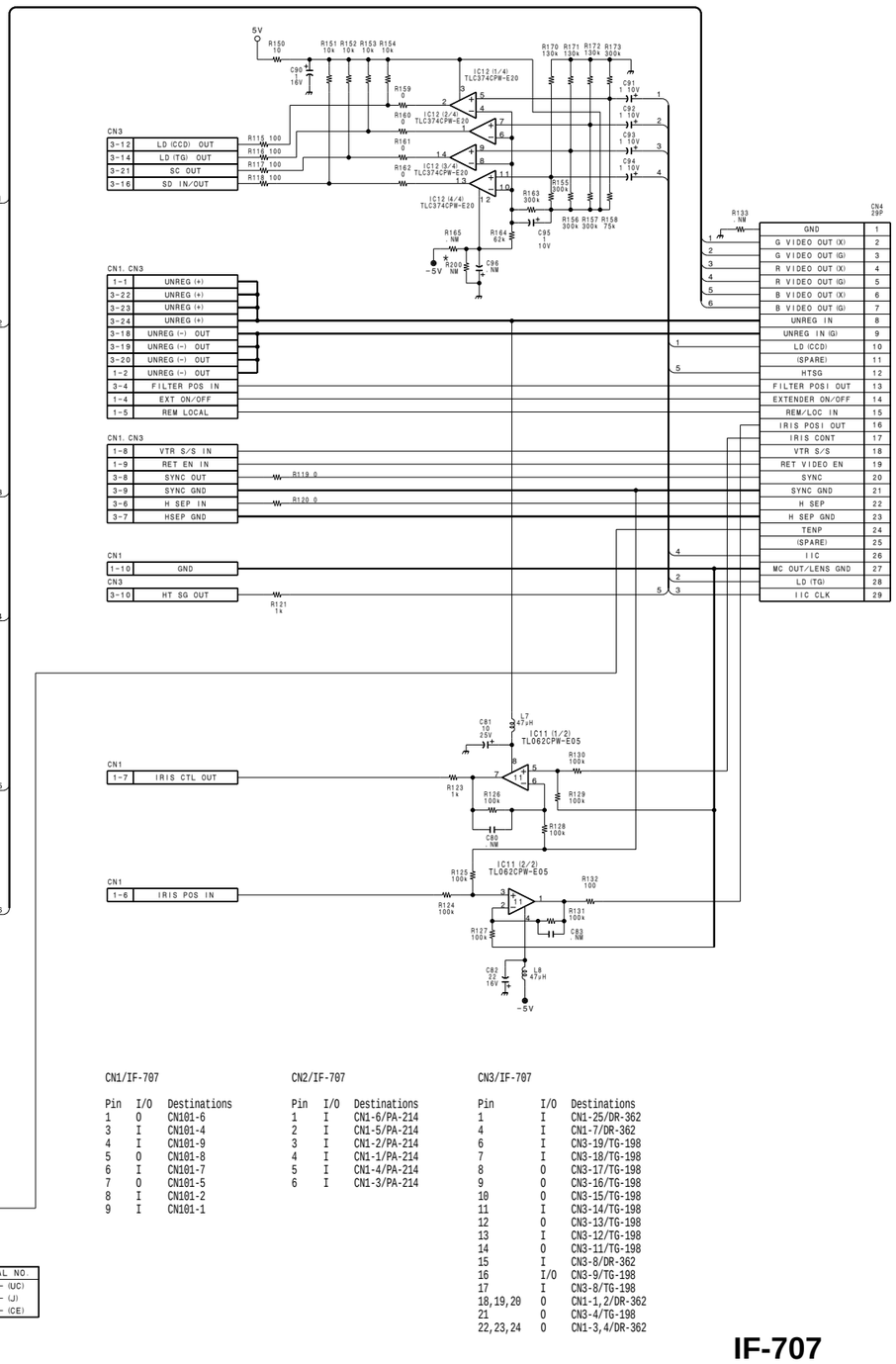
REF. NO.	CHANGE INFORMATION	SERIAL NO.
R31, R72, R111	12k→10k	10091- (UC) 30026- (J) 40041- (CE)
R32, R73, R112	820→0	

PA-214
BOARD NO. 1-669-639-11
LOT NO. 801-
B-¥OHBT450WS-PA214-11@

http://getMANUAL.com

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)





NOTE
★

REF. NO.	CHANGE INFORMATION	SERIAL NO.
R200	DELETE	10091- (UC) 30026- (J) 40041- (CE)

CN1/IF-707

Pin	I/O	Destinations
1	O	CN101-6
3	I	CN101-4
4	I	CN101-9
5	O	CN101-8
6	I	CN101-7
7	O	CN101-5
8	I	CN101-2
9	I	CN101-1

CN2/IF-707

Pin	I/O	Destinations
1	I	CN1-6/PA-214
2	I	CN1-5/PA-214
3	I	CN1-2/PA-214
4	I	CN1-1/PA-214
5	I	CN1-4/PA-214
6	I	CN1-3/PA-214

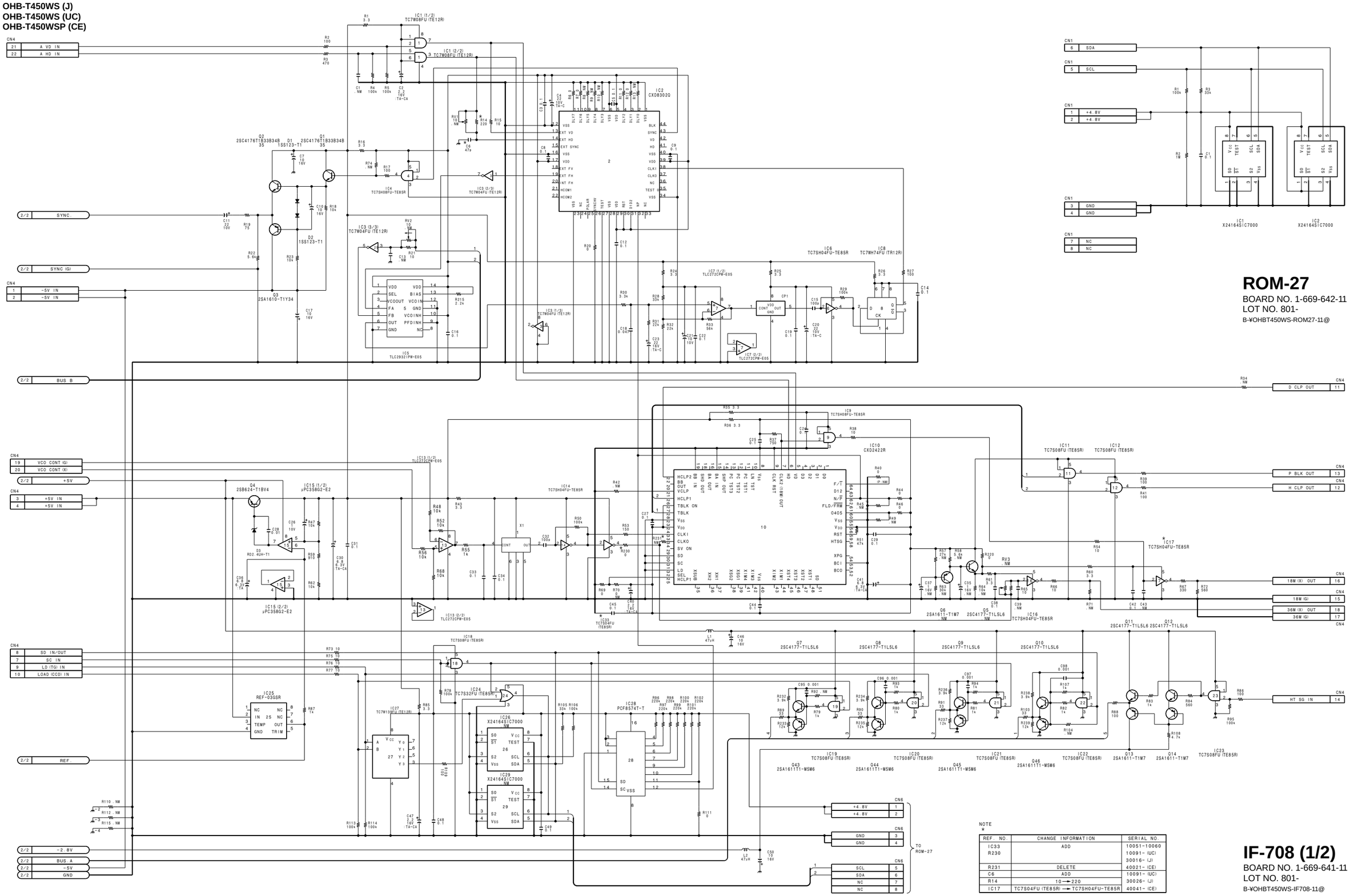
CN3/IF-707

Pin	I/O	Destinations
1	I	CN1-25/DR-362
4	I	CN1-7/DR-362
6	I	CN3-19/TG-198
7	I	CN3-18/TG-198
8	O	CN3-17/TG-198
9	O	CN3-16/TG-198
10	O	CN3-15/TG-198
11	I	CN3-14/TG-198
12	O	CN3-13/TG-198
13	I	CN3-12/TG-198
14	O	CN3-11/TG-198
15	I	CN3-8/DR-362
16	I/O	CN3-9/TG-198
17	I	CN3-8/TG-198
18,19,20	O	CN1-1,2/DR-362
21	O	CN3-4/TG-198
22,23,24	O	CN1-3,4/DR-362

IF-707

BOARD NO. 1-669-640-11
LOT NO. 801-
B-¥OHBT450WS-IF707-11@

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)



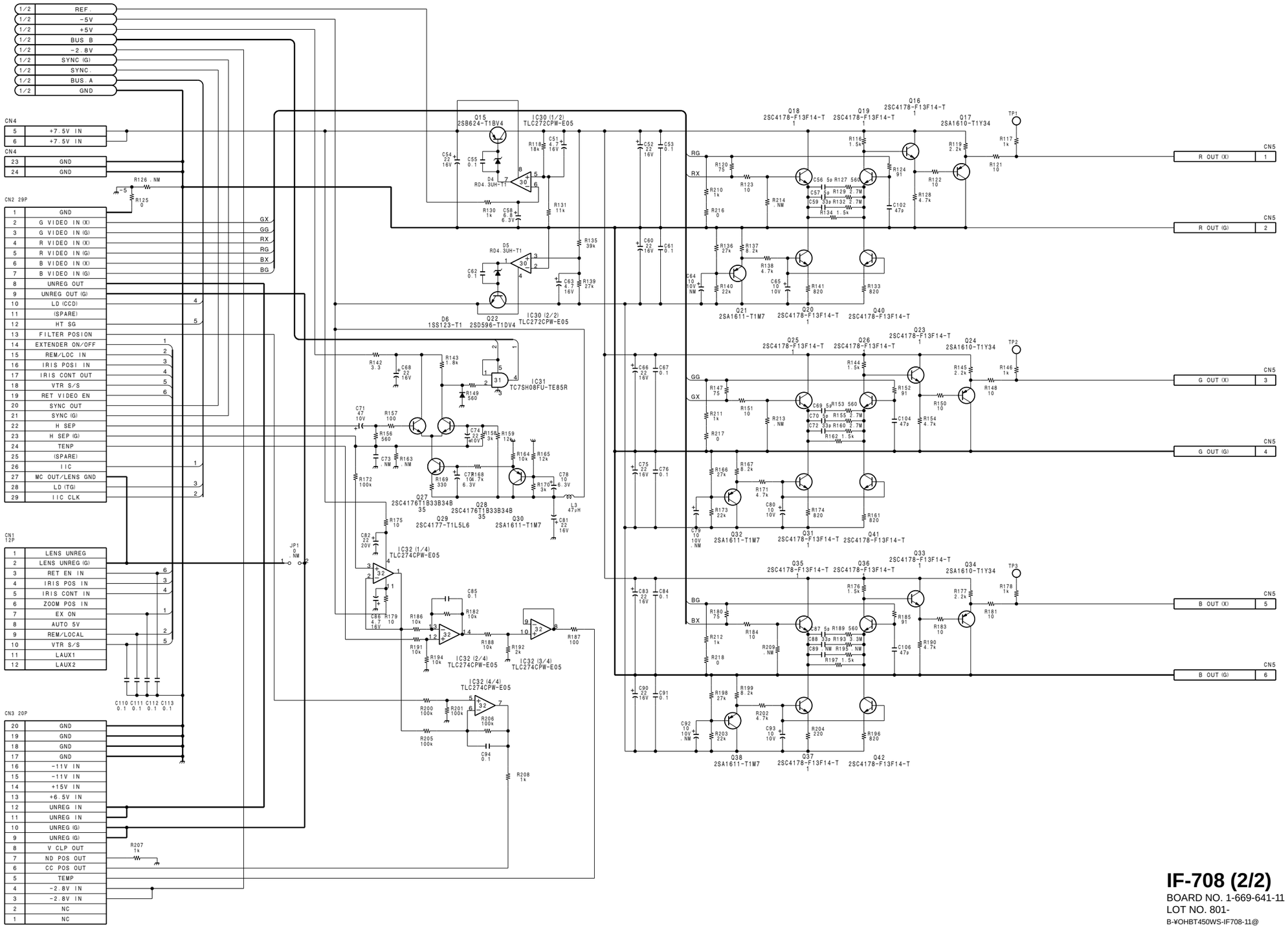
ROM-27
BOARD NO. 1-669-642-11
LOT NO. 801-
B-¥OHBT450WS-ROM27-11@

NOTE
*

REF. NO.	CHANGE INFORMATION	SERIAL NO.
IC33 R230	ADD	10051-10060 10091- (UC) 30016- (J)
R231	DELETE	40021- (CE)
C6	ADD	10091- (UC)
R14	10 → 220	30026- (J)
IC17	TC7S04FU (TE85R) → TC7SH04FU-TE85R	40041- (CE)

IF-708 (1/2)
BOARD NO. 1-669-641-11
LOT NO. 801-
B-¥OHBT450WS-IF708-11@

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)



CN1/IF-708

Pin	I/O	Destinations
1	O	CN2-10
2	O	CN2-1
3	I	CN2-6
4	O	CN2-9
5	I	CN2-5
6	O	CN2-2
7	I	CN2-8
8	O	CN2-7
9	I	CN2-4
10	O	CN2-3

CN3/IF-708

Pin	I/O	Destinations
3	I	CN4-18/CN-1504 (Camera)
4	I	CN4-17/CN-1504 (Camera)
5	O	CN4-16/CN-1504 (Camera)
6	O	CN4-15/CN-1504 (Camera)
7	O	CN4-14/CN-1504 (Camera)
8	O	CN4-13/CN-1504 (Camera)
9	I	CN4-12/CN-1504 (Camera)
10	I	CN4-11/CN-1504 (Camera)
11	I	CN4-10/CN-1504 (Camera)
12	I	CN4-9/CN-1504 (Camera)
13	I	CN4-8/CN-1504 (Camera)
14	I	CN4-7/CN-1504 (Camera)
15	I	CN4-6/CN-1504 (Camera)
16	I	CN4-5/CN-1504 (Camera)

CN4/IF-708

Pin	I/O	Destinations
1	I	CN2-24/CN-1504 (Camera)
2	I	CN2-23/CN-1504 (Camera)
3	I	CN2-22/CN-1504 (Camera)
4	I	CN2-21/CN-1504 (Camera)
5	I	CN2-20/CN-1504 (Camera)
6	I	CN2-19/CN-1504 (Camera)
7	I	CN2-18/CN-1504 (Camera)
8	I/O	CN2-17/CN-1504 (Camera)
9	I	CN2-16/CN-1504 (Camera)
10	I	CN2-15/CN-1504 (Camera)
11	O	CN2-14/CN-1504 (Camera)
12	O	CN2-13/CN-1504 (Camera)
13	O	CN2-12/CN-1504 (Camera)
14	I	CN2-11/CN-1504 (Camera)
15	O	CN2-10/CN-1504 (Camera)
16	O	CN2-9/CN-1504 (Camera)
17	O	CN2-8/CN-1504 (Camera)
18	O	CN2-7/CN-1504 (Camera)
19	I	CN2-6/CN-1504 (Camera)
20	I	CN2-5/CN-1504 (Camera)
21	I	CN2-4/CN-1504 (Camera)
22	I	CN2-3/CN-1504 (Camera)

CN5/IF-708

Pin	I/O	Destinations
1	O	CN21-6/MB-602 (Camera)
2	O	CN21-5/MB-602 (Camera)
3	O	CN21-4/MB-602 (Camera)
4	O	CN21-3/MB-602 (Camera)
5	O	CN21-2/MB-602 (Camera)
6	O	CN21-1/MB-602 (Camera)

IF-708 (2/2)

BOARD NO. 1-669-641-11
LOT NO. 801-
B-¥OHBT450WS-IF708-11@

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)

CN1/TG-198

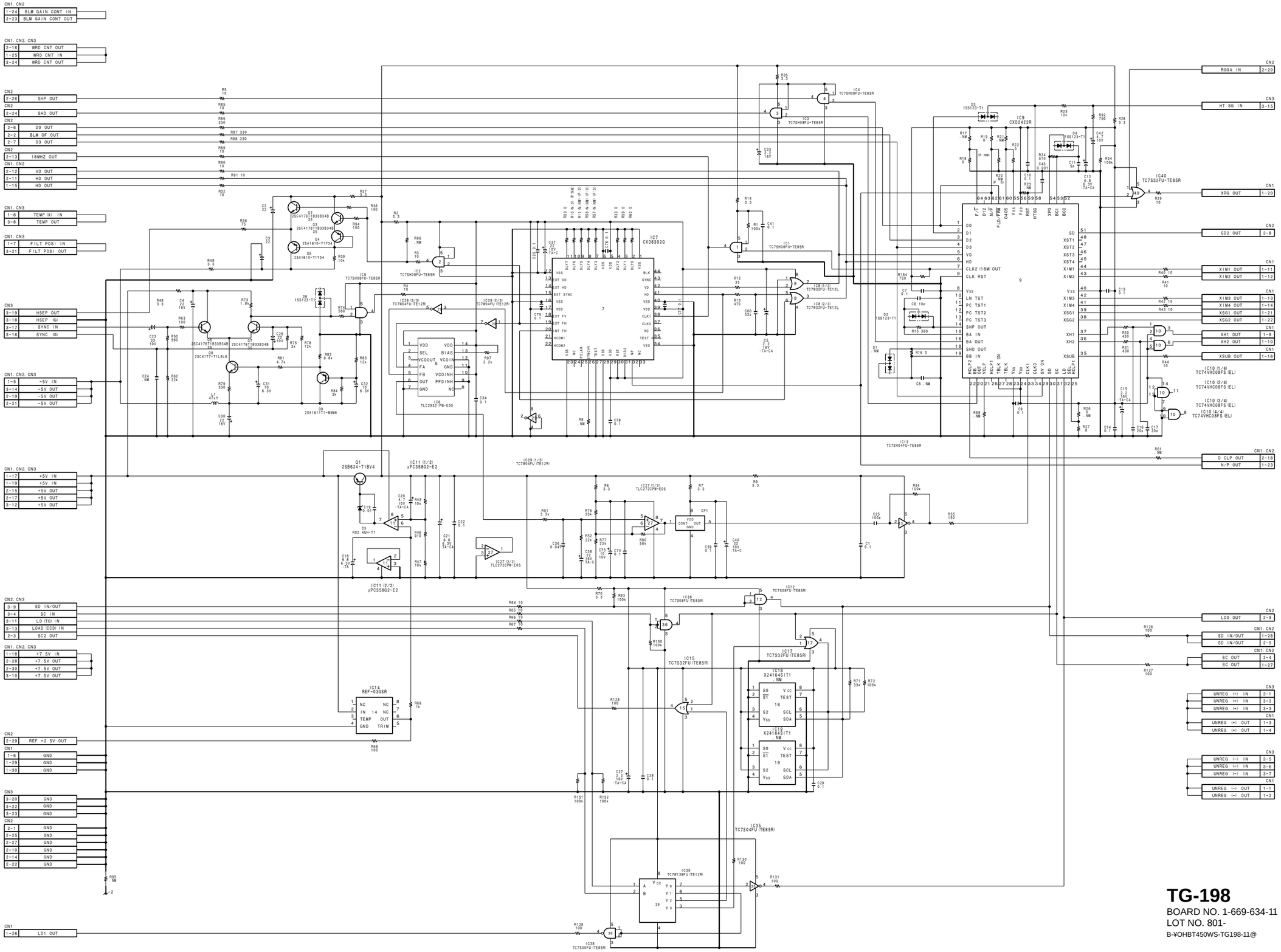
Pin	I/O	Destinations
1	O	CN1-1/DR-362
2	O	CN1-2/DR-362
3	O	CN1-3/DR-362
4	O	CN1-4/DR-362
5	I	CN1-5/DR-362
7	I	CN1-7/DR-362
8	I	CN1-8/DR-362
9	O	CN1-9/DR-362
10	O	CN1-10/DR-362
11	O	CN1-11/DR-362
12	O	CN1-12/DR-362
13	O	CN1-13/DR-362
14	O	CN1-14/DR-362
15	O	CN1-15/DR-362
16	O	CN1-16/DR-362
17	I	CN1-17/DR-362
18	I	CN1-18/DR-362
19	I	CN1-19/DR-362
20	O	CN1-20/DR-362
21	O	CN1-21/DR-362
22	O	CN1-22/DR-362
23	O	CN1-23/DR-362
24	I	CN1-24/DR-362
25	I	CN1-25/DR-362
26	O	CN1-26/DR-362
27	O	CN1-27/DR-362
28	I/O	CN1-28/DR-362

CN2/TG-198

Pin	I/O	Destinations
2	O	CN1-2/BC-30
3	O	CN1-3/BC-30
4	O	CN1-4/BC-30
5	O	CN1-5/BC-30
6	O	CN1-6/BC-30
7	O	CN1-7/BC-30
8	O	CN1-8/BC-30
9	O	CN1-9/BC-30
11	O	CN1-11/BC-30
12	O	CN1-12/BC-30
13	O	CN1-13/BC-30
15	O	CN1-15/BC-30
16	O	CN1-16/BC-30
17	O	CN1-17/BC-30
18	O	CN1-18/BC-30
19	O	CN1-19/BC-30
20	I	CN1-20/BC-30
21	O	CN1-21/BC-30
23	O	CN1-23/BC-30
24	O	CN1-24/BC-30
26	O	CN1-26/BC-30
28	O	CN1-28/BC-30
29	O	CN1-29/BC-30
30	O	CN1-30/BC-30

CN3/TG-198

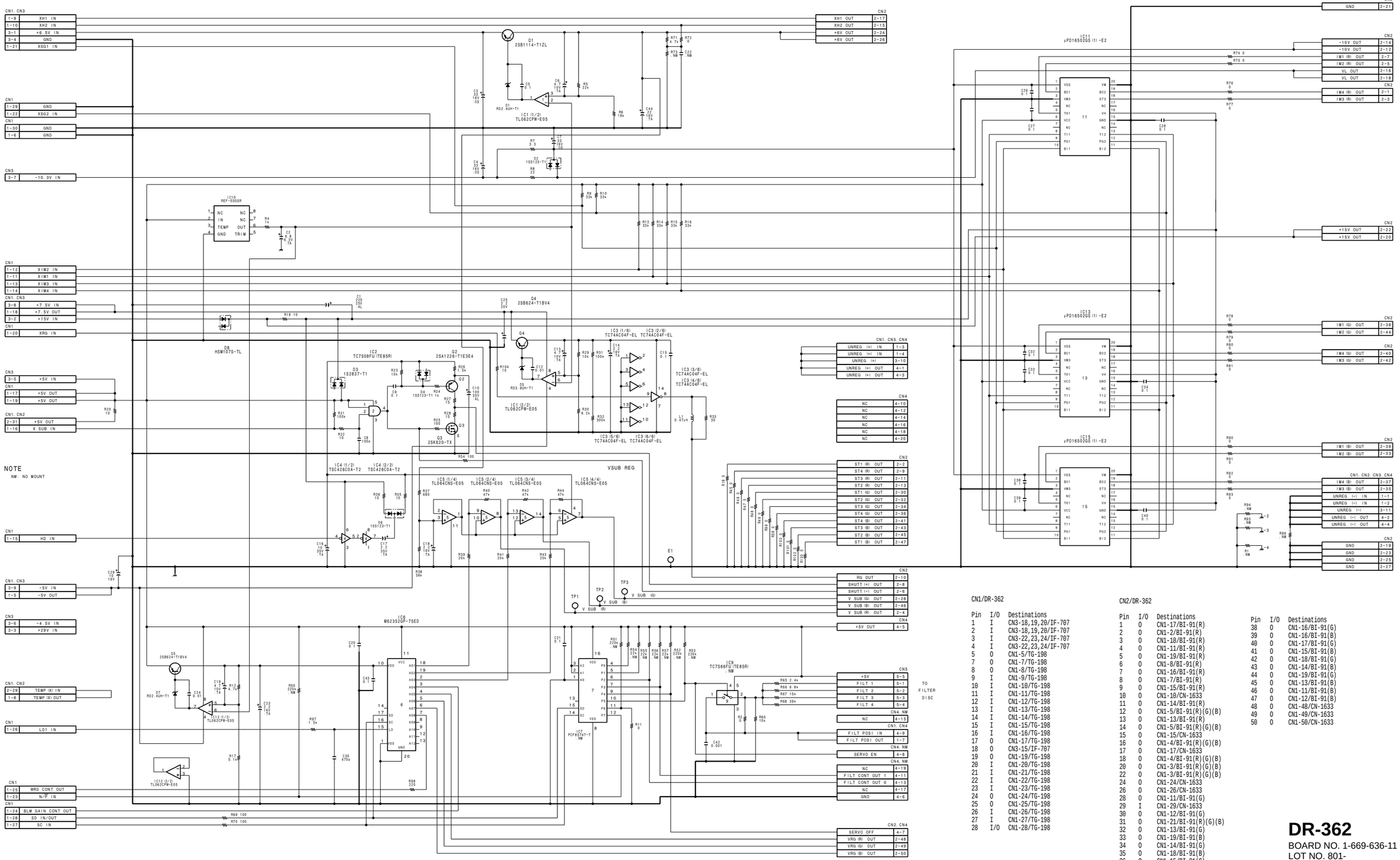
Pin	I/O	Destinations
1	I	CN3-24/IF-707
2	I	CN3-23/IF-707
3	I	CN3-22/IF-707
4	I	CN3-21/IF-707
5	I	CN3-20/IF-707
6	I	CN3-19/IF-707
7	I	CN3-18/IF-707
8	O	CN3-17/IF-707
9	I/O	CN3-16/IF-707
10	O	CN3-15/IF-707
11	I	CN3-14/IF-707
12	O	CN3-13/IF-707
13	I	CN3-12/IF-707
14	O	CN3-11/IF-707
15	I	CN3-10/IF-707
16	I	CN3-9/IF-707
17	I	CN3-8/IF-707
18	O	CN3-7/IF-707
19	O	CN3-6/IF-707
21	O	CN3-4/IF-707
24	O	CN3-1/IF-707



TG-198
BOARD NO. 1-669-634-11
LOT NO. 801-
B-¥OHBT450WS-TG198-11@

OHB-T450WS
OHB-T450WSP

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)



CN1/DR-362

Pin	I/O	Destinations
1	I	CN3-18,19,20/IF-707
2	I	CN3-18,19,20/IF-707
3	I	CN3-22,23,24/IF-707
4	I	CN3-22,23,24/IF-707
5	O	CN1-5/TG-198
7	O	CN1-7/TG-198
8	O	CN1-8/TG-198
9	I	CN1-9/TG-198
10	I	CN1-10/TG-198
11	I	CN1-11/TG-198
12	I	CN1-12/TG-198
13	I	CN1-13/TG-198
14	I	CN1-14/TG-198
15	I	CN1-15/TG-198
16	I	CN1-16/TG-198
17	O	CN1-17/TG-198
18	O	CN3-15/IF-707
19	O	CN1-19/TG-198
20	I	CN1-20/TG-198
21	I	CN1-21/TG-198
22	I	CN1-22/TG-198
23	I	CN1-23/TG-198
24	O	CN1-24/TG-198
25	O	CN1-25/TG-198
26	I	CN1-26/TG-198
27	I	CN1-27/TG-198
28	I/O	CN1-28/TG-198

CN2/DR-362

Pin	I/O	Destinations
1	O	CN1-17/BI-91(R)
2	O	CN1-2/BI-91(R)
3	O	CN1-18/BI-91(R)
4	O	CN1-11/BI-91(R)
5	O	CN1-19/BI-91(R)
6	O	CN1-8/BI-91(R)
7	O	CN1-16/BI-91(R)
8	O	CN1-7/BI-91(R)
9	O	CN1-15/BI-91(R)
10	O	CN1-10/CN-1633
11	O	CN1-14/BI-91(R)
12	O	CN1-5/BI-91(R)(G)(B)
13	O	CN1-13/BI-91(R)
14	O	CN1-5/BI-91(R)(G)(B)
15	O	CN1-15/CN-1633
16	O	CN1-4/BI-91(R)(G)(B)
17	O	CN1-17/CN-1633
18	O	CN1-4/BI-91(R)(G)(B)
20	O	CN1-3/BI-91(R)(G)(B)
22	O	CN1-3/BI-91(R)(G)(B)
24	O	CN1-24/CN-1633
26	O	CN1-26/CN-1633
28	O	CN1-11/BI-91(G)
29	I	CN1-29/CN-1633
30	O	CN1-12/BI-91(G)
31	O	CN1-21/BI-91(R)(G)(B)
32	O	CN1-13/BI-91(G)
33	O	CN1-19/BI-91(B)
34	O	CN1-14/BI-91(G)
35	O	CN1-18/BI-91(B)
36	O	CN1-15/BI-91(G)
37	O	CN1-17/BI-91(B)

Pin	I/O	Destinations
38	O	CN1-16/BI-91(G)
39	O	CN1-16/BI-91(B)
40	O	CN1-17/BI-91(G)
41	O	CN1-15/BI-91(B)
42	O	CN1-18/BI-91(G)
43	O	CN1-14/BI-91(B)
44	O	CN1-19/BI-91(G)
45	O	CN1-13/BI-91(B)
46	O	CN1-11/BI-91(B)
47	O	CN1-12/BI-91(B)
48	O	CN1-48/CN-1633
49	O	CN1-49/CN-1633
50	O	CN1-50/CN-1633

DR-362
BOARD NO. 1-669-636-11
LOT NO. 801-
B-¥OHBT450WS-DR362-11@

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)

CABLE ADAPTOR

CCD UNIT

TG-198

DR-362

BVP-550/570

IF-708

IF-707

CN102 LENS

(WIRING SIDE)

CN1 LENS UNREG
CN2 LENS UNREG (G)
CN3 RET EN IN
CN4 IRIS POS IN
CN5 IRIS CONT IN
CN6 ZOOM POS IN
CN7 EX ON
CN8 AUTO 5V
CN9 REM/LOCAL
CN10 VTR S/S
CN11 LAUX1
CN12 LAUX2

CN2 CAM BODY

29P CABLE

CN4 OPT HEAD

CN4
1 GND
2 G VIDEO OUT (X)
3 G VIDEO OUT (G)
4 R VIDEO OUT (X)
5 R VIDEO OUT (G)
6 B VIDEO OUT (X)
7 B VIDEO OUT (G)
8 UNREG IN
9 UNREG IN (G)
10 LD (CCD)
11 (SPARE)
12 HTSG
13 FILTER POSI OUT
14 EXTENDER ON/OFF
15 REM/LOC IN
16 IRIS POSI OUT
17 IRIS CONT
18 VTR S/S
19 RET VIDEO EN
20 SYNC
21 SYNC GND
22 H SEP
23 H SEP GND
24 TEMP
25 (SPARE)
26 IIC
27 MC OUT/LENS GND
28 LD (TG)
29 IIC CLK

CN3
UNREG (+) OUT 24 — 1 UNREG (+) IN
UNREG (+) OUT 23 — 2 UNREG (+) IN
UNREG (+) OUT 22 — 3 UNREG (+) IN
SC OUT 21 — 4 SC IN
UNREG (-) OUT 20 — 5 UNREG (-) IN
UNREG (-) OUT 19 — 6 UNREG (-) IN
UNREG (-) OUT 18 — 7 UNREG (-) IN
TEMP IN 17 — 8 TEMP OUT
SD IN/OUT 16 — 9 SD IN/OUT
+7.5V IN 15 — 10 +7.5V OUT
LD (TG) OUT 14 — 11 LD (TG) IN
+5V IN 13 — 12 +5V OUT
LD (CCD) OUT 12 — 13 LD (CCD) IN
-5V IN 11 — 14 -5V OUT
HT SG OUT 10 — 15 HT SG IN
SYNC (G) 9 — 16 SYNC (G)
SYNC OUT 8 — 17 SYNC IN
HSEP (G) 7 — 18 HSEP (G)
HSEP IN 6 — 19 HSEP OUT
GND 5 — 20 GND
FILT POSI IN 4 — 21 FILT POSI OUT
GND 3 — 22 GND
GND 2 — 23 GND
WRD CNT IN 1 — 24 WRD CNT OUT

FLEXIBLE CARD WIRE

CN1
1 UNREG (+)
2 UNREG (-)
3 AUTO +5V
4 EXT ON/OFF
5 REM LOCAL
6 IRIS POS IN
7 IRIS CTL OUT
8 VTR S/S IN
9 RET EN IN
10 GND

CN2
B PA IN (G) 1 — 6
B PA IN (X) 2 — 5
R PA IN (G) 3 — 2
R PA IN (X) 4 — 1
G PA IN (G) 5 — 4
G PA IN (X) 6 — 3
NC 7
NC 8

CN1
UNREG (-) OUT 1 — 1 UNREG (-) IN
UNREG (-) OUT 2 — 2 UNREG (-) IN
UNREG (+) OUT 3 — 3 UNREG (+) IN
UNREG (+) OUT 4 — 4 UNREG (+) IN
-5V IN 5 — 5 -5V OUT
GND 6 — 6 GND
FILT POSI IN 7 — 7 FILT POSI OUT
TEMP (X) IN 8 — 8 TEMP (X) OUT
XH1 OUT 9 — 9 XH1 IN
XH2 OUT 10 — 10 XH2 IN
XIM1 OUT 11 — 11 XIM1 IN
XIM2 OUT 12 — 12 XIM2 IN
XIM3 OUT 13 — 13 XIM3 IN
XIM4 OUT 14 — 14 XIM4 IN
HD OUT 15 — 15 HD IN
XSUB OUT 16 — 16 XSUB IN
+5V IN 17 — 17 +5V OUT
+7.5V IN 18 — 18 +7.5V OUT
+5V IN 19 — 19 +5V OUT
XRG OUT 20 — 20 XRG IN
XSG1 OUT 21 — 21 XSG1 IN
XSG2 OUT 22 — 22 XSG2 IN
N/P OUT 23 — 23 N/P IN
BLM GAIN CONT IN 24 — 24 BLM GAIN CONT OUT
WRD CNT IN 25 — 25 WRD CNT OUT
LD1 OUT 26 — 26 LD1 IN
SC OUT 27 — 27 SC IN
SD IN/OUT 28 — 28 SD IN/OUT
GND 29 — 29 GND
GND 30 — 30 GND

DC-DC CONVERTER

CN3
1 +6.5V IN
2 +15V IN
3 +29V IN
4 GND
5 +5V IN
6 -4.5V IN
7 -10.3V IN
8 +7.5V IN
9 -5V IN
10 UNREG (+)
11 UNREG (-)

FILTER

CN5
1 FILT 1
2 FILT 2
3 FILT 3
4 FILT 4
5 +5V

CN-1504

CN21
1 — 1 R OUT (X)
2 — 2 R OUT (G)
3 — 3 G OUT (X)
4 — 4 G OUT (G)
5 — 5 B OUT (X)
6 — 6 B OUT (G)

MB-602

CN6
NC 8
NC 7
SCL 6
SDA 5
GND 4
GND 3
+4.8V 2
+4.8V 1

CN1
NC 8
NC 7
SCL 6
SDA 5
GND 4
GND 3
+4.8V 2
+4.8V 1

ROM-27

CN-1634

CN1
1 UNREG (+)
2 T.COMP OUT
3 EXT ON/OFF
4 REM LOCAL
5 IRIS POS OUT
6 IRIS CTL IN
7 VTR S/S OUT
8 RET EN IN
9 GND

CN2
RET EN OUT 1
VTR S/S IN 2
GND 3
T.COMP IN 4
IRIS CTL OUT 5
UNREG (+) 6
IRIS POS IN 7
REM LOCAL 8
EXT ON/OFF 9
NC 10
NC 11
NC 12

CN101 LENS

(EXTERNAL VIEW)

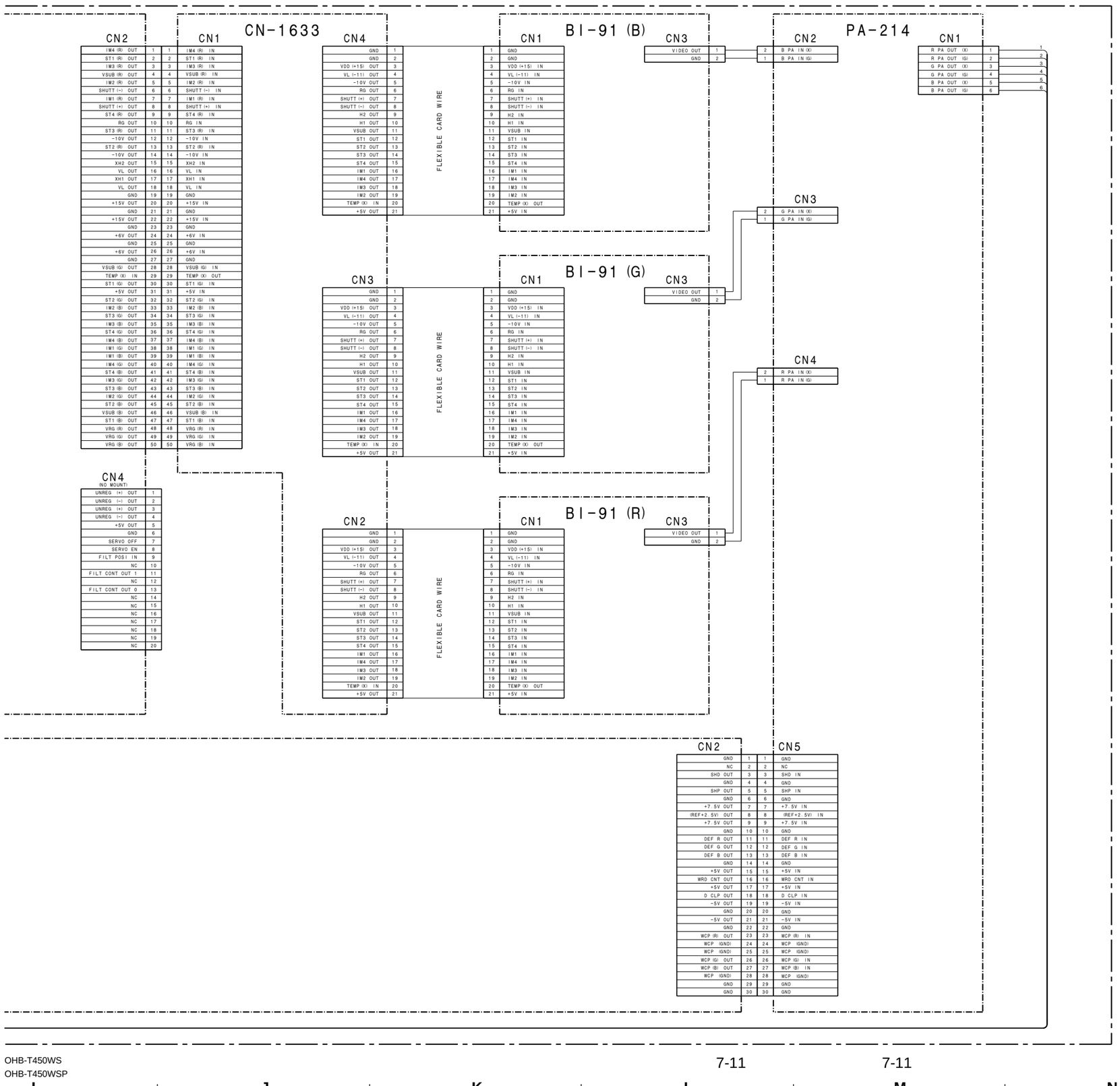
BC-30

CN2
GND 1 — 1 GND
BLM OF OUT 2 — 2 BLM OF IN
BCZ OUT 3 — 3 BCZ IN
SC OUT 4 — 4 SC IN
SD IN/OUT 5 — 5 SD IN
DD OUT 6 — 6 DD IN
D3 OUT 7 — 7 D3 IN
SDZ OUT 8 — 8 SDZ IN
GND OUT 9 — 9 GND
HD OUT 10 — 10 HD IN
VD OUT 11 — 11 VD IN
16M OUT 12 — 12 16M IN
GND 13 — 13 GND
WRD OUT 14 — 14 WRD IN
+5V OUT 15 — 15 +5V IN
D CLP OUT 16 — 16 D CLP IN
-5V OUT 17 — 17 -5V IN
RGGA OUT 18 — 18 RGGA IN
-5V OUT 19 — 19 -5V IN
BLM GAIN CONT OUT 20 — 20 BLM GAIN CONT IN
SHD OUT 21 — 21 SHD IN
GND 22 — 22 GND
SHP OUT 23 — 23 SHP IN
GND 24 — 24 GND
+7.5V OUT 25 — 25 +7.5V IN
+5V OUT 26 — 26 +5V IN
+7.5V OUT 27 — 27 +7.5V IN
+7.5V OUT 28 — 28 +7.5V IN
+7.5V OUT 29 — 29 +7.5V IN
+7.5V OUT 30 — 30 +7.5V IN

CN1
GND 1
BLM OF IN 2
BCZ IN 3
SC IN 4
SD IN 5
DD IN 6
D3 IN 7
SDZ IN 8
GND IN 9
HD IN 10
VD IN 11
16M IN 12
GND 13
WRD +5V IN 14
+5V IN 15
-5V IN 16
RGGA OUT 17
-5V IN 18
BLM GAIN CONT IN 19
SHD IN 20
GND 21
SHP IN 22
GND 23
+7.5V IN 24
REF+7.5V IN 25
+7.5V IN 26
+7.5V IN 27
+7.5V IN 28
+7.5V IN 29
+7.5V IN 30

7-10 7-10

OHB-T450WS
OHB-T450WSP



FRAME

LOT NO. 801-

B-¥CAXA041B-FRAME

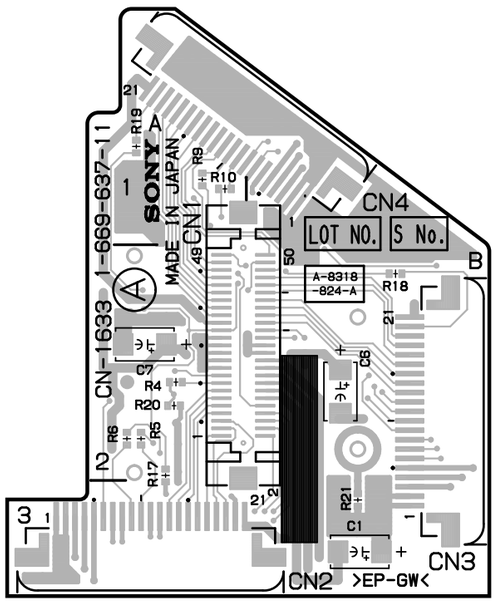
OHB-T450WS
OHB-T450WSP

7-11 7-11

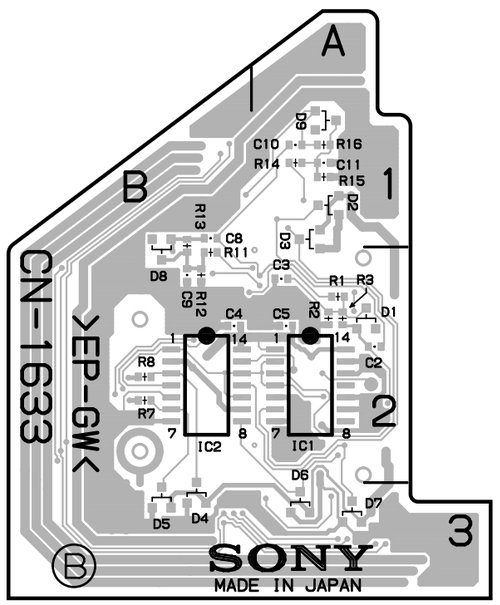
I J K L M N O P

Section 8
Board Layouts

OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)



CN-1633 -A SIDE-
SUFFIX : -11

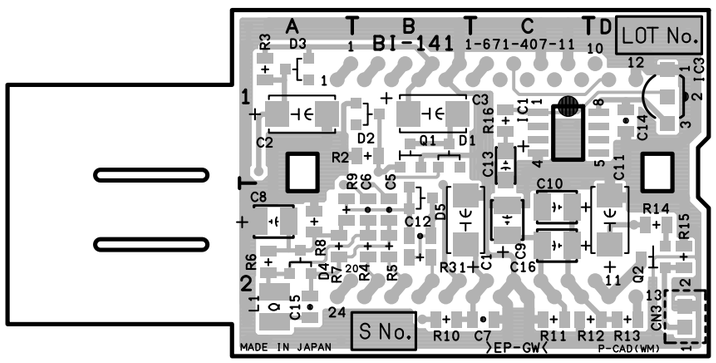


CN-1633 -B SIDE-
SUFFIX : -11

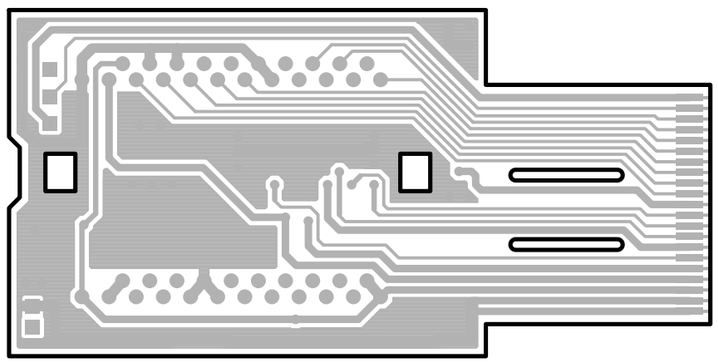
CN-1633(1-669-637-11)

C1	B3	R14	*A1
C2	*A2	R15	*A1
C3	*A2	R16	*A1
C4	*B2	R17	A2
C5	*A2	R18	B2
C6	B2	R19	A1
C7	A2	R20	A2
C8	*B1	R21	B3
C9	*B2		
C10	*A1	*: B SIDE	
C11	*A1		
CN1	A2		
CN2	A3		
CN3	B2		
CN4	B1		
D1	*A2		
D2	*A1		
D3	*A1		
D4	*B3		
D5	*B3		
D6	*A3		
D7	*A3		
D8	*B2		
D9	*A1		
IC1	*A2		
IC2	*B2		
R1	*A2		
R2	*A2		
R3	*A2		
R4	A2		
R5	A2		
R6	A2		
R7	*B2		
R8	*B2		
R9	A1		
R10	A1		
R11	*B2		
R12	*B2		
R13	*B1		

OHB-T450WS (J) : S/N 30016 and Higher
OHB-T450WS (UC) : S/N 10051 through 10060
S/N 10091 and Higher
OHB-T450WSP (CE) : S/N 40021 and Higher



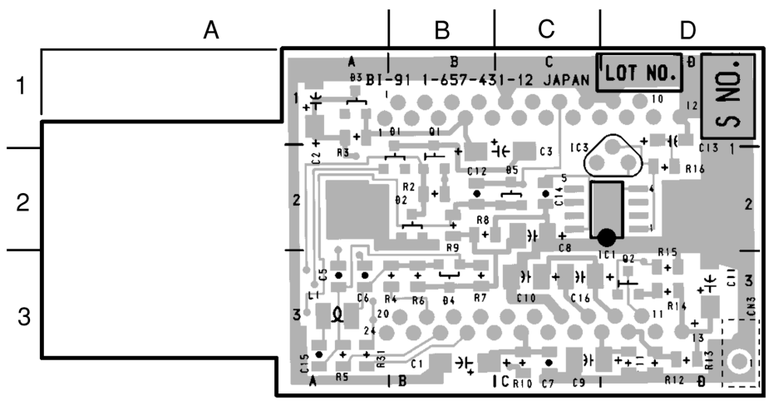
BI-141 -COMPONENT SIDE-
SUFFIX : -11



BI-141 -SOLDERING SIDE-
SUFFIX : -11

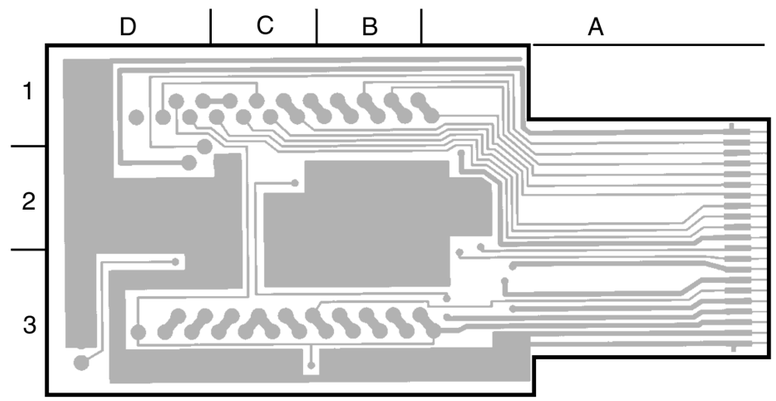
BI-141(1-671-407-11)

C1	B2	L1	A2
C2	A1		
C3	B1	Q1	B1
C5	B2	Q2	D2
C6	B2		
C7	C2	R2	B1
C8	A2	R3	A1
C9	C2	R4	B2
C10	C2	R5	B2
C11	D2	R6	A2
C12	B2	R7	A2
C13	C1	R8	A2
C14	D1	R9	A2
C15	A2	R10	B2
C16	C2	R11	C2
		R12	D2
CN3	*D2	R13	D2
		R14	D2
D1	B1	R15	D2
D2	B1	R16	C1
D3	A1	R31	B2
D4	A2		
D5	B2	*: B SIDE	
IC1	C1		
IC2	*A1		
IC3	D1		
IC4	*A1		



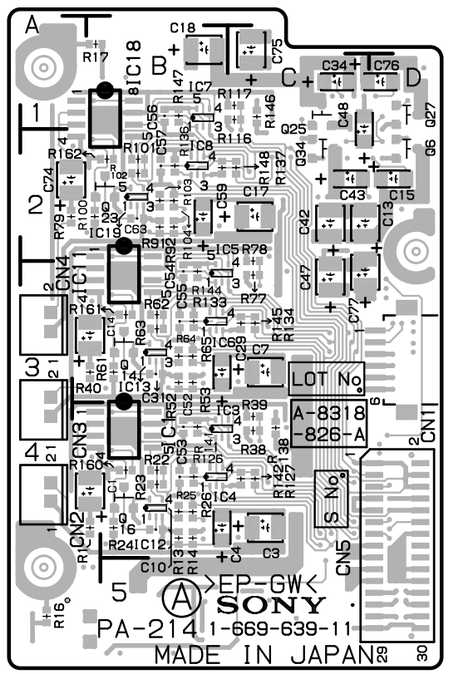
OHB-T450WS (J) : **S/N 30001 through 30015**
OHB-T450WS (UC) : **S/N 10001 through 10050**
S/N 10061 through 10090
OHB-T450WSP (CE) : **S/N 40001 through 40020**

BI-91 -COMPONENT SIDE-
SUFFIX : -12



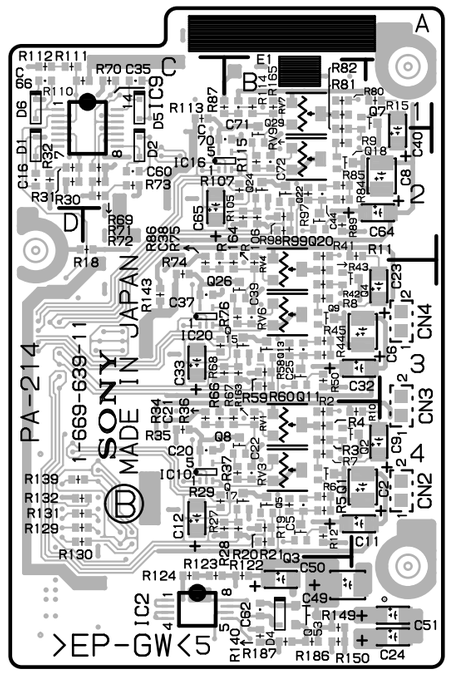
BI-91 -SOLDERING SIDE-
SUFFIX : -12

http://getMANUAL.com



OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)

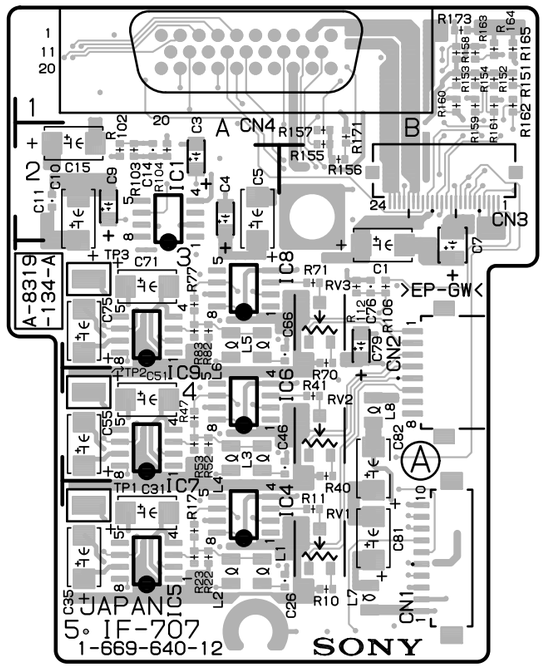
PA-214 -A SIDE-
SUFFIX : -11



PA-214 -B SIDE-
SUFFIX : -11

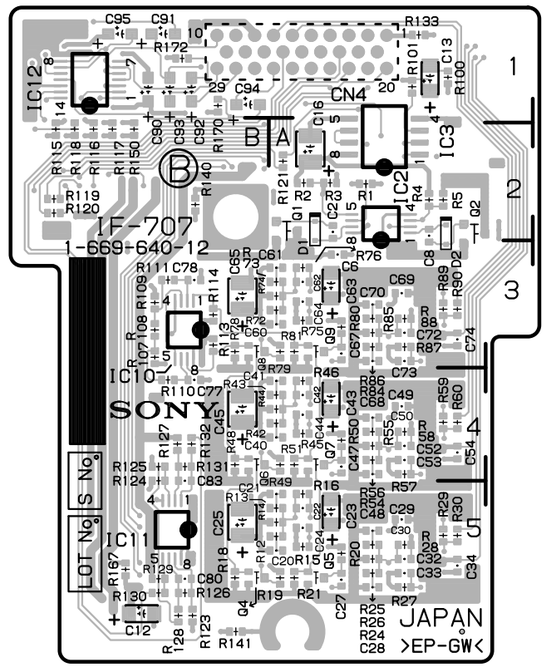
PA-214(1-669-639-11)

C1	B4	IC19	B2	R73	*C2
C2	*B4	IC20	*C3	R74	*C3
C3	C4			R75	*B3
C4	B4	Q1	*B4	R76	*B3
C5	*B4	Q2	*B4	R77	C3
C6	*B3	Q3	*B4	R78	C2
C7	C3	Q4	*B3	R79	A2
C8	*A2	Q5	*B4	R80	*B1
C9	*A4	Q6	D2	R81	*B2
C10	B4	Q7	*A1	R82	*B1
C11	*B4	Q8	*B4	R84	*B2
C12	*C4	Q9	*B3	R85	*B2
C13	C2	Q11	*B3	R86	*C3
C14	B3	Q13	*B3	R87	*C1
C15	D2	Q14	B3	R89	*B2
C16	*D2	Q15	*B3	R91	B2
C17	C2	Q16	B4	R92	B2
C18	B1	Q17	*B4	R97	*B2
C20	*C4	Q18	*B2	R98	*B2
C21	*C4	Q20	*B2	R99	*B2
C22	*B4	Q22	*B2	R100	B2
C23	*A3	Q23	B2	R101	B2
C24	*A5	Q24	*B2	R102	B2
C25	*B3	Q25	C1	R103	B2
C29	B3	Q26	*B3	R104	B2
C31	B3	Q27	D1	R105	*B2
C32	*B3	Q29	*B2	R106	*B2
C33	*C3	Q34	C2	R107	*B2
C34	C1	Q53	*B5	R110	*D1
C35	*C1			R111	*D1
C37	*C3	R1	B4	R112	*D1
C38	*C3	R2	*B4	R113	*C1
C39	*B3	R3	*B4	R114	*B1
C40	*A2	R4	*B4	R115	*B2
C42	C2	R5	*B4	R116	C1
C43	C2	R6	*B4	R117	C1
C44	*B2	R7	*B4	R122	*B5
C47	C3	R8	*B3	R123	*C5
C48	C1	R9	*B2	R124	*C5
C49	*B5	R10	*B4	R126	B4
C50	*B5	R11	*B2	R127	C4
C51	*A5	R12	*B4	R129	*D4
C52	B4	R13	B4	R130	*D4
C53	B4	R14	B4	R131	*D4
C54	B3	R15	*A1	R132	*D4
C55	B3	R16	A5	R133	B3
C56	B1	R17	B1	R134	C3
C57	B2	R18	*C2	R136	B2
C59	B2	R19	*B4	R137	C2
C60	*C2	R20	*B4	R138	C4
C62	*B5	R21	*B4	R139	*D4
C63	B2	R22	B4	R140	*B5
C64	*A2	R23	B4	R141	B4
C65	*C2	R24	B4	R142	C4
C66	*D1	R25	B4	R143	*C3
C70	*B2	R26	B4	R144	B3
C71	*B1	R27	*C4	R145	C3
C72	*B2	R28	*B4	R146	C1
C74	A2	R29	*C4	R147	B1
C75	C1	R30	*D2	R148	B2
C76	D1	R31	*D2	R149	*B5
C77	C3	R32	*D2	R150	*B5
		R34	*C4	R160	B4
CN1	D3	R35	*C4	R161	B3
CN2	A4	R36	*B4	R162	B2
CN3	A4	R37	*B4	R163	*B4
CN4	A3	R38	C4	R164	*B3
CN5	D4	R39	C4	R165	*B1
		R40	B3	R186	*B5
D1	*D2	R41	*B2	R187	*B5
D2	*C2	R42	*B3		
D4	*B5	R43	*B3	RV1	*B4
D5	*C1	R44	*B3	RV3	*B4
D6	*D1	R45	*B3	RV4	*B3
		R50	*B3	RV6	*B3
E1	*B1	R52	B3	RV7	*B1
		R53	B3	RV9	*B2
IC1	B4	R58	*B3		
IC2	*C5	R59	*B3	*: B SIDE	
IC3	B4	R60	*B3		
IC4	B4	R61	B3		
IC5	B3	R62	B3		
IC6	B3	R63	B3		
IC7	B1	R64	B3		
IC8	B2	R65	B3		
IC9	*D1	R66	*C3		
IC10	*C4	R67	*B3		
IC11	B2	R68	*C3		
IC12	B4	R69	*C2		
IC13	B3	R70	*C1		
IC16	*B2	R71	*C2		
IC18	A1	R72	*C2		

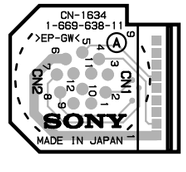


OHB-T450WS (J) : S/N 30026 and Higher
OHB-T450WS (UC) : S/N 10091 and Higher
OHB-T450WSP (CE) : S/N 40041 and Higher

IF-707 -A SIDE-
SUFFIX : -12

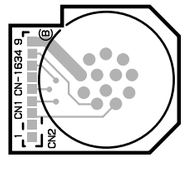


IF-707 -B SIDE-
SUFFIX : -12



OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)

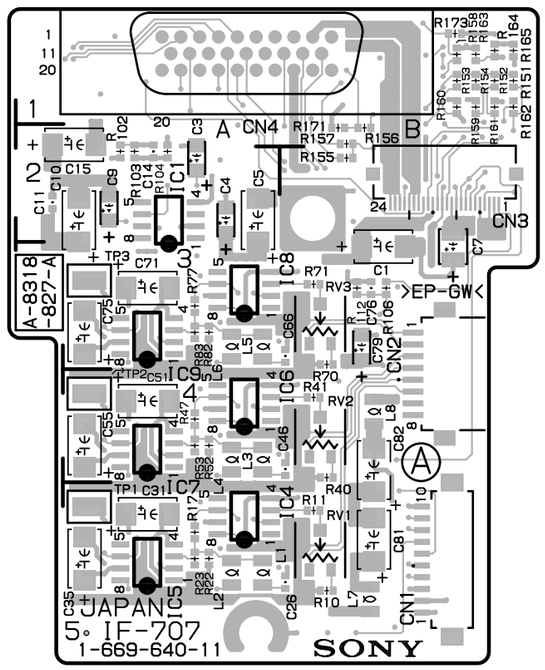
CN-1634 -A SIDE-
SUFFIX : -11

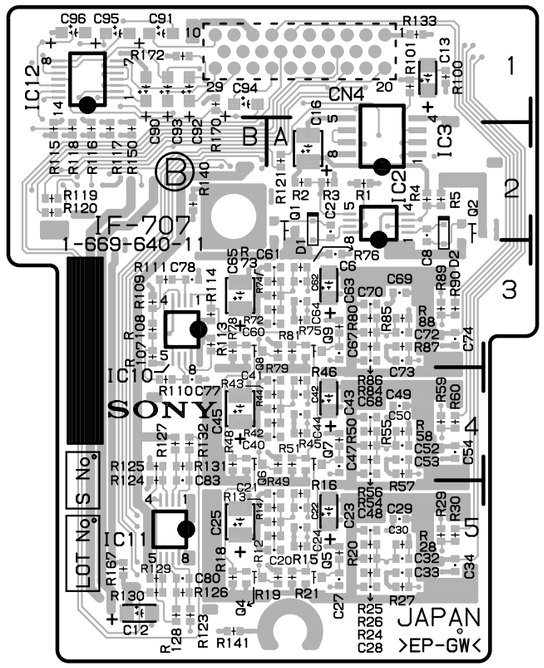


CN-1634 -B SIDE-
SUFFIX : -11

IF-707(1-669-640-12)

C1	B3	IC6	A4	R89	*A3
C2	*A2	IC7	A4	R90	*A3
C3	A2	IC8	A3	R100	*A1
C4	A2	IC9	A3	R101	*A1
C5	A2	IC10	*B3	R102	A2
C6	*A3	IC11	*B5	R103	A2
C7	B3	IC12	*B1	R104	A2
C8	*A2			R106	B3
C9	A2	L1	A5	R107	*B3
C10	A2	L2	A5	R108	*B3
C11	A2	L3	A4	R109	*B3
C12	*B5	L4	A4	R110	*B4
C13	*A1	L5	A3	R111	*B3
C14	A2	L6	A3	R112	B3
C15	A2	L7	B5	R113	*B3
C16	*A2	L8	B4	R114	*B3
C20	*A5			R115	*B2
C21	*A5	Q1	*A2	R116	*B2
C22	*A5	Q2	*A2	R117	*B2
C23	*A5	Q4	*B5	R118	*B2
C24	*A5	Q5	*A5	R119	*B2
C25	*B5	Q6	*B4	R120	*B2
C26	B5	Q7	*A4	R121	*A2
C27	*A5	Q8	*B3	R123	*B5
C28	*A5	Q9	*A3	R124	*B4
C29	*A5			R125	*B4
C30	*A5	R1	*A2	R126	*B5
C31	A5	R2	*A2	R127	*B4
C32	*A5	R3	*A2	R128	*B5
C33	*A5	R4	*A2	R129	*B5
C34	*A5	R5	*A2	R130	*B5
C35	A5	R10	B5	R131	*B4
C40	*A4	R11	B5	R132	*B4
C41	*A4	R12	*A5	R133	*A1
C42	*A4	R13	*A5	R140	*B2
C43	*A4	R14	*A5	R141	*B5
C44	*A4	R15	*A5	R150	*B2
C45	*B4	R16	*A5	R151	B1
C46	B4	R17	A5	R152	B1
C47	*A4	R18	*B5	R153	B1
C48	*A4	R19	*A5	R154	B1
C49	*A4	R20	*A5	R155	B2
C50	*A4	R21	*A5	R156	B2
C51	A4	R22	A5	R157	B2
C52	*A4	R23	A5	R158	B1
C53	*A4	R24	*A5	R159	B1
C54	*A4	R25	*A5	R160	B1
C55	A4	R26	*A5	R161	B1
C60	*A3	R27	*A5	R162	B1
C61	*A3	R28	*A5	R163	B1
C62	*A3	R29	*A5	R164	B1
C63	*A3	R30	*A5	R165	B1
C64	*A3	R40	B4	R167	*B5
C65	*B3	R41	B4	R170	*B1
C66	B3	R42	*A4	R171	B2
C67	*A3	R43	*A4	R172	*B1
C68	*A3	R44	*A4	R173	B1
C69	*A3	R45	*A4		
C70	*A3	R46	*A4	RV1	B5
C71	A3	R47	A4	RV2	B4
C72	*A3	R48	*B4	RV3	B3
C73	*A3	R49	*A4		
C74	*A3	R50	*A4	TP1	A5
C75	A3	R51	*A4	TP2	A4
C76	B3	R52	A4	TP3	A3
C77	*B4	R53	A4		
C78	*B3	R54	*A4	*: B SIDE	
C79	B3	R55	*A4		
C80	*B5	R56	*A4		
C81	B5	R57	*A4		
C82	B4	R58	*A4		
C83	*B4	R59	*A4		
C90	*B1	R60	*A4		
C91	*B1	R70	B3		
C92	*B1	R71	B3		
C93	*B1	R72	*A3		
C94	*B1	R73	*A3		
C95	*B1	R74	*A3		
		R75	*A3		
CN1	B5	R76	*A3		
CN2	B4	R77	A3		
CN3	B2	R78	*B3		
CN4	A1	R79	*A3		
		R80	*A3		
D1	*A2	R81	*A3		
D2	*A2	R82	A3		
		R83	A3		
IC1	A2	R84	*A3		
IC2	*A2	R85	*A3		
IC3	*A2	R86	*A3		
IC4	A5	R87	*A3		
IC5	A5	R88	*A3		





OHB-T450WS (J) : S/N 30001 through 30025
OHB-T450WS (UC) : S/N 10001 through 10090
OHB-T450WSP (CE) : S/N 40001 through 40040

IF-707 -A SIDE-
SUFFIX : -11

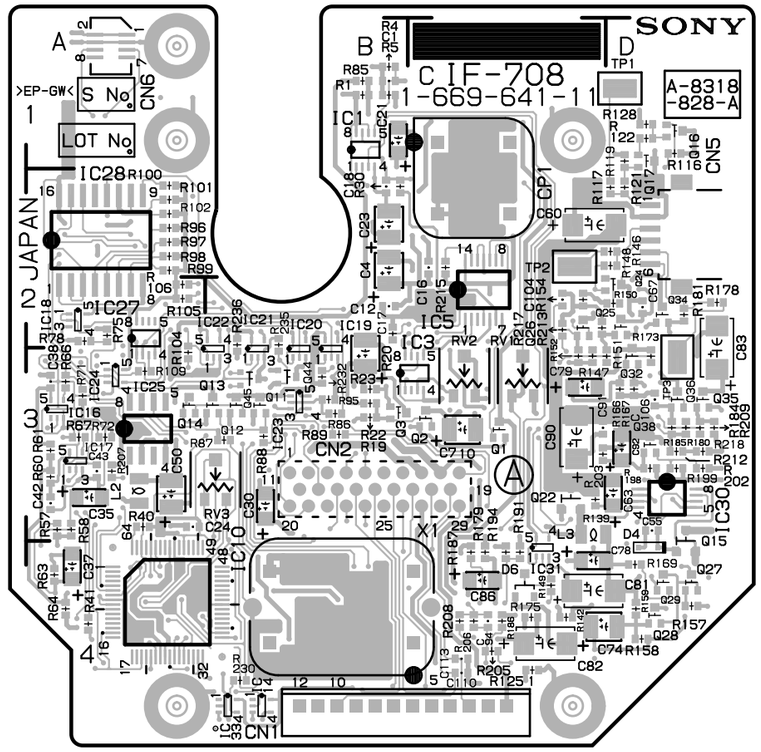
IF-707 -B SIDE-
SUFFIX : -11

IF-707(1-669-640-11)

C1	B3	IC5	A5	R88	*A3
C2	*A2	IC6	A4	R89	*A3
C3	A2	IC7	A4	R90	*A3
C4	A2	IC8	A3	R100	*A1
C5	A2	IC9	A3	R101	*A1
C6	*A3	IC10	*B3	R102	A2
C7	B3	IC11	*B5	R103	A2
C8	*A2	IC12	*B1	R104	A2
C9	A2			R106	B3
C10	A2	L1	A5	R107	*B3
C11	A2	L2	A5	R108	*B3
C12	*B5	L3	A4	R109	*B3
C13	*A1	L4	A4	R110	*B4
C14	A2	L5	A3	R111	*B3
C15	A2	L6	A3	R112	B3
C16	*A2	L7	B5	R113	*B3
C20	*A5	L8	B4	R114	*B3
C21	*A5			R115	*B2
C22	*A5	Q1	*A2	R116	*B2
C23	*A5	Q2	*A2	R117	*B2
C24	*A5	Q4	*B5	R118	*B2
C25	*B5	Q5	*A5	R119	*B2
C26	B5	Q6	*B4	R120	*B2
C27	*A5	Q7	*A4	R121	*A2
C28	*A5	Q8	*B3	R123	*B5
C29	*A5	Q9	*A3	R124	*B4
C30	*A5			R125	*B4
C31	A5	R1	*A2	R126	*B5
C32	*A5	R2	*A2	R127	*B4
C33	*A5	R3	*A2	R128	*B5
C34	*A5	R4	*A2	R129	*B5
C35	A5	R5	*A2	R130	*B5
C40	*A4	R10	B5	R131	*B4
C41	*A4	R11	B5	R132	*B4
C42	*A4	R12	*A5	R133	*A1
C43	*A4	R13	*A5	R140	*B2
C44	*A4	R14	*A5	R141	*B5
C45	*B4	R15	*A5	R150	*B2
C46	B4	R16	*A5	R151	B1
C47	*A4	R17	A5	R152	B1
C48	*A4	R18	*B5	R153	B1
C49	*A4	R19	*A5	R154	B1
C50	*A4	R20	*A5	R155	B2
C51	A4	R21	*A5	R156	B2
C52	*A4	R22	A5	R157	B2
C53	*A4	R23	A5	R158	B1
C54	*A4	R24	*A5	R159	B1
C55	A4	R25	*A5	R160	B1
C60	*A3	R26	*A5	R161	B1
C61	*A3	R27	*A5	R162	B1
C62	*A3	R28	*A5	R163	B1
C63	*A3	R29	*A5	R164	B1
C64	*A3	R30	*A5	R165	B1
C65	*B3	R40	B4	R167	*B5
C66	B3	R41	B4	R170	*B1
C67	*A3	R42	*A4	R171	B2
C68	*A3	R43	*A4	R172	*B1
C69	*A3	R44	*A4	R173	B1
C70	*A3	R45	*A4		
C71	A3	R46	*A4	RV1	B5
C72	*A3	R47	A4	RV2	B4
C73	*A3	R48	*B4	RV3	B3
C74	*A3	R49	*A4		
C75	A3	R50	*A4	TP1	A5
C76	B3	R51	*A4	TP2	A4
C77	*B4	R52	A4	TP3	A3
C78	*B3	R53	A4		
C79	B3	R54	*A4	*: B SIDE	
C80	*B5	R55	*A4		
C81	B5	R56	*A4		
C82	B4	R57	*A4		
C83	*B4	R58	*A4		
C90	*B1	R59	*A4		
C91	*B1	R60	*A4		
C92	*B1	R70	B3		
C93	*B1	R71	B3		
C94	*B1	R72	*A3		
C95	*B1	R73	*A3		
C96	*B1	R74	*A3		
		R75	*A3		
CN1	B5	R76	*A3		
CN2	B4	R77	A3		
CN3	B2	R78	*B3		
CN4	A1	R79	*A3		
		R80	*A3		
D1	*A2	R81	*A3		
D2	*A2	R82	A3		
		R83	A3		
IC1	A2	R84	*A3		
IC2	*A2	R85	*A3		
IC3	*A2	R86	*A3		
IC4	A5	R87	*A3		

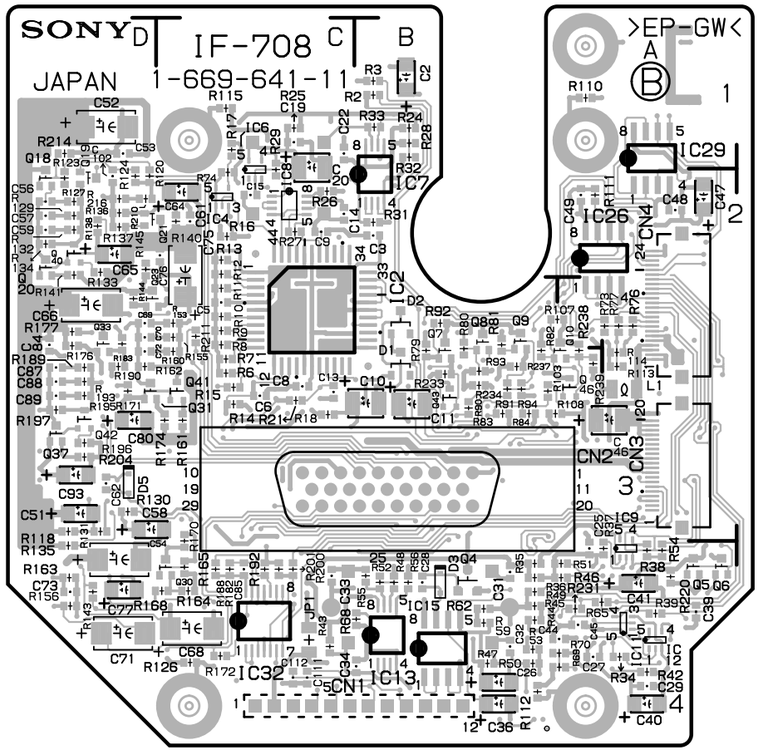
IF-708(1-669-641-11)

C1	B1	C93	*D3	Q27	D4
C2	*B1	C94	C4	Q28	D4
C3	*B2	C102	*D2	Q29	D4
C4	B2	C104	C2	Q30	*C4
C5	*C2	C106	D3	Q31	*D3
C6	*C3	C110	C4	Q32	D3
C7	C3	C111	*C4	Q33	*D2
C8	*C3	C112	*C4	Q34	D2
C9	*C2	C113	C4	Q35	D3
C10	*B3			Q36	D3
C11	*B3	CN1	B4	Q37	*D3
C12	B2	CN2	*B3	Q38	D3
C13	*C3	CN3	*A3	Q40	*D2
C14	*C2	CN4	*A2	Q41	*C3
C15	*C2	CN5	D2	Q42	*D3
C16	C2	CN6	A1	Q43	*B3
C17	B3			Q44	B3
C18	B2	CP1	C2	Q45	B3
C19	*C1			Q46	*A3
C20	*C1	D1	*B3		
C21	B1	D2	*B2	R1	B1
C22	*C1	D3	*B4	R2	*B1
C23	B2	D4	D4	R3	*B1
C24	A3	D5	*D3	R4	B1
C25	*A4	D6	C4	R5	B1
C26	*B4			R6	*C3
C27	*A4	IC1	B1	R7	*C3
C28	*B4	IC2	*C2	R8	*C2
C29	*A4	IC3	C3	R9	*C2
C30	B3	IC4	*C2	R10	*C2
C31	*B4	IC5	C2	R11	*C2
C32	*B4	IC6	*C2	R12	*C2
C33	*C4	IC7	*B2	R13	*C2
C34	*B4	IC8	*C2	R14	*C3
C35	A3	IC9	*A4	R15	*C3
C36	*B4	IC10	A4	R16	*C2
C37	A4	IC11	*A4	R17	*C1
C38	A3	IC12	*A4	R18	*C3
C39	*A4	IC13	*B4	R19	B3
C40	*A4	IC14	B4	R20	B2
C41	*A4	IC15	*B4	R21	*C3
C42	A3	IC16	A3	R22	B3
C43	A3	IC17	A3	R23	B3
C44	*A4	IC18	A2	R24	*B1
C45	*A4	IC19	B3	R25	*C1
C46	*A3	IC20	B3	R26	*C2
C47	*A2	IC21	B3	R27	*C2
C48	*A2	IC22	B3	R28	*B1
C49	*A2	IC23	B3	R29	*C2
C50	A3	IC24	A3	R30	B2
C51	*D3	IC25	A3	R31	*B2
C52	*D1	IC26	*A2	R32	*B1
C53	*D1	IC27	A2	R33	*B1
C54	*D4	IC28	A2	R34	*A4
C55	D3	IC29	*A2	R35	*B4
C56	*D2	IC30	D3	R36	*B4
C57	*D2	IC31	C4	R37	*A4
C58	*D3	IC32	*C4	R38	*A4
C59	*D2	IC33	B4	R39	*A4
C60	C2			R40	A3
C61	*C2	JP1	*C4	R41	A4
C62	*D3			R42	*A4
C63	D3	L1	*A3	R43	*C4
C64	*C2	L2	A3	R44	*B4
C65	*D2	L3	C3	R45	*B4
C66	*D2			R46	*A4
C67	D2	Q1	C3	R47	*B4
C68	*C4	Q2	C3	R48	*B4
C69	*D2	Q3	B3	R49	*B4
C70	*D2	Q4	*B4	R50	*B4
C71	*D4	Q5	*A4	R51	*A4
C72	*D3	Q6	*A4	R52	*B4
C73	*D4	Q7	*B3	R53	*B4
C74	C4	Q8	*B2	R54	*A4
C75	*C2	Q9	*B2	R55	*B4
C76	*C2	Q10	*A3	R56	*B4
C77	*D4	Q11	B3	R57	A3
C78	C4	Q12	B3	R58	A3
C79	C3	Q13	B3	R59	*B4
C80	*D3	Q14	A3	R60	A3
C81	C4	Q15	D3	R61	A3
C82	C4	Q16	D1	R62	*B4
C83	D2	Q17	D1	R63	A4
C84	*D2	Q18	*D2	R64	A4
C85	*C4	Q19	*D2	R65	*A4
C86	C4	Q20	*D2	R66	A3
C87	*D3	Q21	*D2	R67	A3
C88	*D3	Q22	C3	R68	*B4
C89	*D3	Q23	*D2	R69	*A4
C90	C3	Q24	D2	R70	*A4
C91	C3	Q25	D2	R71	A3
C92	D3	Q26	C2	R72	A3

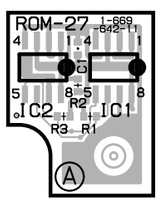


OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)

IF-708 -A SIDE-
SUFFIX : -11

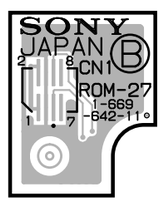


IF-708 -B SIDE-
SUFFIX : -11



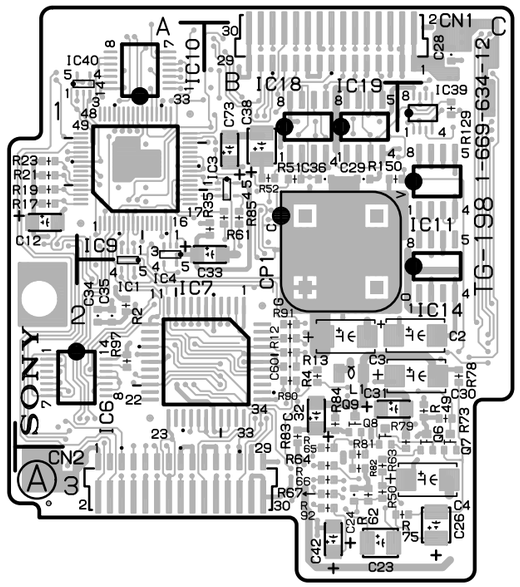
OHB-T450WS (J)
OHB-T450WS (UC)
OHB-T450WSP (CE)

ROM-27 -A SIDE-
SUFFIX : -11



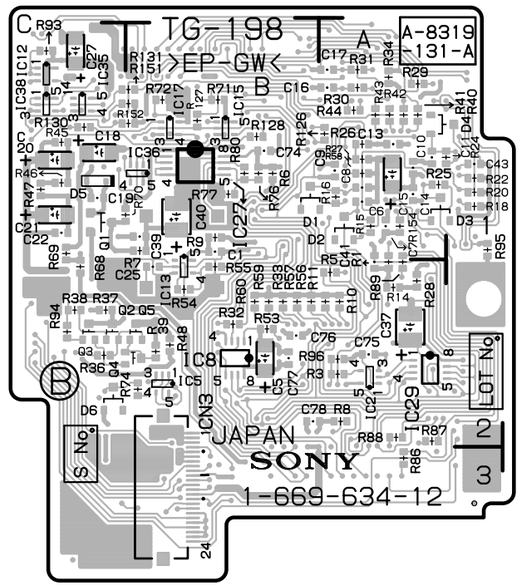
ROM-27 -B SIDE-
SUFFIX : -11

R73	*A2	R165	*C4		
R74	*C2	R166	D3		
R75	A2	R167	D3		
R76	*A2	R168	*C4		
R77	*A2	R169	D4		
R78	A2	R170	*C3		
R79	*B3	R171	*D3		
R80	*B3	R172	*C4		
R81	*B2	R173	D3		
R82	*B3	R174	*C3		
R83	*B3	R175	C4		
R84	*B3	R176	*D2		
R85	B1	R177	*D2		
R86	B3	R178	D2		
R87	B3	R179	C4		
R88	B3	R180	D3		
R89	B3	R181	D2		
R90	*B3	R182	*C4		
R91	*B3	R183	*D2		
R92	*B2	R184	D3		
R93	*B3	R185	D3		
R94	*B3	R186	C4		
R95	B3	R187	C4		
R96	A2	R188	*C4		
R97	A2	R189	*D3		
R98	A2	R190	*D3		
R99	A2	R191	C4		
R100	A2	R192	*C4		
R101	A2	R193	*D3		
R102	A2	R194	C4		
R103	*B3	R195	*D3		
R104	A3	R196	*D3		
R105	A2	R197	*D3		
R106	A2	R198	D3		
R107	*B2	R199	D3		
R108	*B3	R200	*C4		
R109	A3	R201	*C4		
R110	*A1	R202	D3		
R111	*A2	R203	C3		
R112	*B4	R204	*D3		
R113	*A3	R205	C4		
R114	*A3	R206	C4		
R115	*C1	R207	A3		
R116	D1	R208	C4		
R117	D2	R209	D3		
R118	*D3	R210	*D2		
R119	D1	R211	*C2		
R120	*D2	R212	D3		
R121	D2	R213	C2		
R122	D1	R214	*D1		
R123	*D2	R215	C2		
R124	*D2	R216	*D2		
R125	C4	R217	C2		
R126	*C4	R218	D3		
R127	*D2	R220	*A4		
R128	D1	R230	B4		
R129	*D2	R231	*A4		
R130	*D3	R232	B3		
R131	*D3	R233	*B3		
R132	*D2	R234	*B3		
R133	*D2	R235	B2		
R134	*D2	R236	B2		
R135	*D4	R237	*B3		
R136	*D2	R238	*A3		
R137	*D2	R239	*A3		
R138	*D2				
R139	C3	RV1	C3		
R140	*C2	RV2	C3		
R141	*D2	RV3	B3		
R142	C4				
R143	*D4	TP1	D1		
R144	*D2	TP2	C2		
R145	*D2	TP3	D3		
R146	D2				
R147	C3	X1	B4		
R148	D2				
R149	C4	*: B SIDE			
R150	D2				
R151	D3				
R152	C3				
R153	*C2				
R154	C2				
R155	*C2				
R156	*D4				
R157	D4				
R158	D4				
R159	D4				
R160	*C3				
R161	*C3				
R162	*D3				
R163	*D4				
R164	*C4				



TG-198 -A SIDE-

SUFFIX : -12



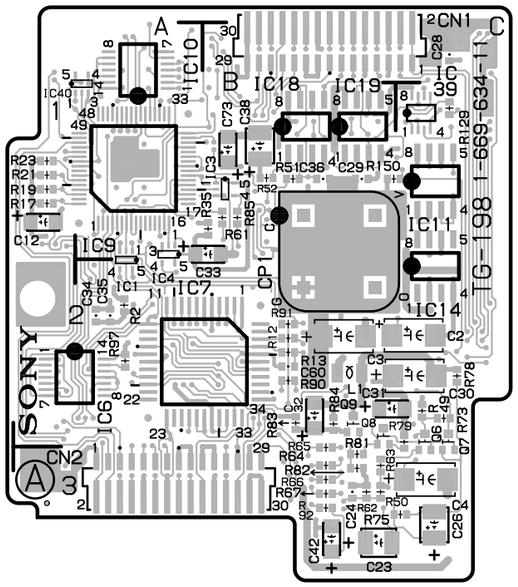
TG-198 -B SIDE-

SUFFIX : -12

OHB-T450WS (J) : S/N 30026 and Higher
OHB-T450WS (UC) : S/N 10091 and Higher
OHB-T450WSP (CE) : S/N 40041 and Higher

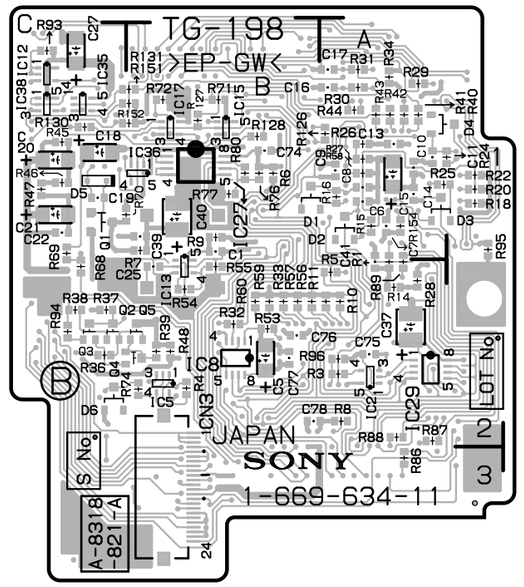
TG-198(1-669-634-12)

C1	*B1	Q1	*C1	R82	B3
C2	C2	Q2	*C2	R83	B2
C3	B2	Q3	*C2	R84	B2
C4	C3	Q4	*B2	R85	B1
C5	*B2	Q5	*B2	R86	*A3
C6	*A1	Q6	C2	R87	*A2
C7	*A1	Q7	C2	R88	*A2
C8	*A1	Q8	B2	R89	*A2
C9	*A1	Q9	B2	R91	B2
C10	*A1			R92	B3
C11	*A1	R1	*A2	R93	*C1
C12	A1	R2	A2	R94	*C2
C13	*A1	R3	*A2	R95	*A1
C14	*A1	R4	B2	R96	*A2
C15	*A1	R5	*A2	R97	A2
C16	*A1	R6	*B1	R126	*A1
C17	*A1	R7	*B1	R127	*B1
C18	*C1	R8	*A2	R128	*B1
C19	*C1	R9	*B1	R129	C1
C20	*C1	R90	B2	R130	*C1
C21	*C1	R10	*A2	R131	*B1
C22	*C1	R11	*A2	R150	B1
C23	B3	R12	B2	R151	*B1
C24	B3	R13	B2	R152	*B1
C25	*B2	R14	*A2	R154	*A1
C26	C3	R15	*A1		
C27	*C1	R16	*A1	*: B SIDE	
C28	C1	R17	A1		
C29	B1	R18	*A1		
C30	C2	R19	A1		
C31	B2	R20	*A1		
C32	B2	R21	A1		
C33	B1	R22	*A1		
C34	A2	R23	A1		
C35	A2	R24	*A1		
C36	B1	R25	*A1		
C37	*A2	R26	*A1		
C38	B1	R27	*A1		
C39	*B1	R28	*A2		
C40	*B1	R29	*A1		
C41	*A2	R30	*A1		
C42	B3	R31	*A1		
C43	*A1	R32	*B2		
C60	B2	R33	*B2		
C73	B1	R34	*A1		
C74	*B1	R35	B1		
C75	*A2	R36	*C2		
C76	*B2	R37	*C2		
C77	*B2	R38	*C2		
C78	*B2	R39	*B2		
		R40	*A1		
CN1	B1	R41	*A1		
CN2	A3	R42	*A1		
CN3	*B3	R43	*A1		
		R44	*A1		
CP1	B1	R45	*C1		
		R46	*C1		
D1	*B1	R47	*C1		
D2	*A1	R48	*B2		
D3	*A1	R49	C2		
D4	*A1	R50	B3		
D5	*C1	R51	B1		
D6	*C2	R52	B1		
		R53	*B2		
IC1	A2	R54	*B2		
IC2	*A2	R55	*B2		
IC3	B1	R56	*B2		
IC4	A1	R57	*B2		
IC5	*B2	R58	*A1		
IC6	A2	R59	*B2		
IC7	B2	R60	*B2		
IC8	*B2	R61	B1		
IC9	A1	R62	B3		
IC10	A1	R63	B3		
IC11	C1	R64	B3		
IC12	*C1	R65	B3		
IC13	*B2	R66	B3		
IC14	C2	R67	B3		
IC15	*B1	R68	*C2		
IC17	*B1	R69	*C1		
IC18	B1	R70	*C1		
IC19	B1	R71	*B1		
IC27	*B1	R72	*B1		
IC29	*A2	R73	C2		
IC35	*C1	R74	*B2		
IC36	*B1	R75	C3		
IC38	*C1	R76	*B1		
IC39	C1	R77	*B1		
IC40	A1	R78	C2		
		R79	C2		
L1	B2	R80	*B1		
		R81	B3		



OHB-T450WS (J) : S/N 30001 through 30025
OHB-T450WS (UC) : S/N 10001 through 10090
OHB-T450WSP (CE) : S/N 40001 through 40040

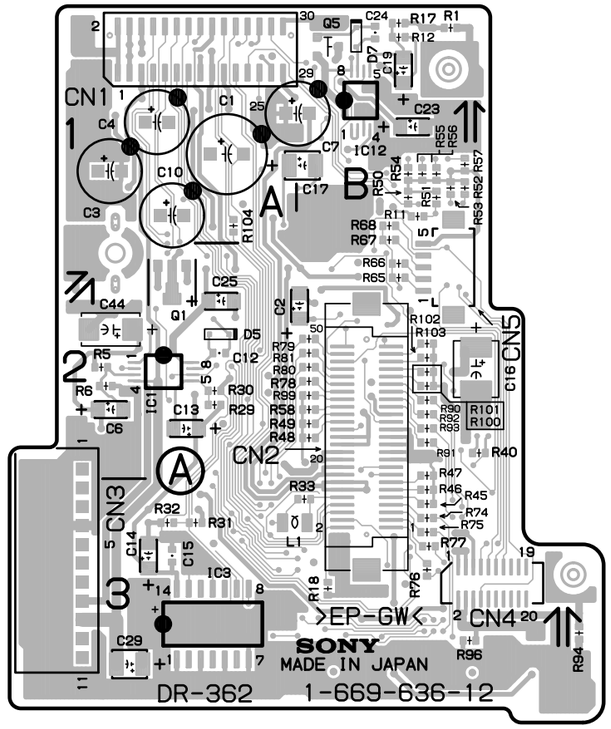
TG-198 -A SIDE-
SUFFIX : -11



TG-198 -B SIDE-
SUFFIX : -11

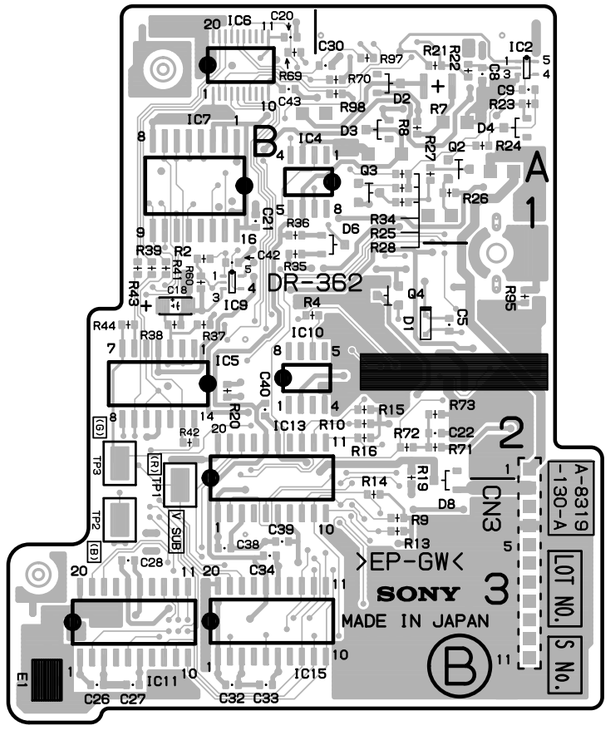
TG-198(1-669-634-11)

C1	*B1	Q2	*C2	R84	B2
C2	C2	Q3	*C2	R85	B1
C3	B2	Q4	*B2	R86	*A3
C4	C3	Q5	*B2	R87	*A2
C5	*B2	Q6	C2	R88	*A2
C6	*A1	Q7	C2	R89	*A2
C7	*A1	Q8	B2	R90	B2
C8	*A1	Q9	B2	R91	B2
C9	*A1			R92	B3
C10	*A1	R1	*A2	R93	*C1
C11	*A1	R2	A2	R94	*C2
C12	A1	R3	*A2	R95	*A1
C13	*A1	R4	*B2	R96	*A2
C14	*A1	R5	*A2	R97	A2
C15	*A1	R6	*B1	R126	*A1
C16	*A1	R7	*B1	R127	*B1
C17	*A1	R8	*A2	R128	*B1
C18	*C1	R9	*B1	R129	C1
C19	*C1	R10	*A2	R130	*C1
C20	*C1	R11	*A2	R131	*B1
C21	*C1	R12	B2	R150	B1
C22	*C1	R13	B2	R151	*B1
C23	B3	R14	*A2	R152	*B1
C24	B3	R15	*A1	R154	*A1
C25	*B2	R16	*A1		
C26	C3	R17	A1	*: B SIDE	
C27	*C1	R18	*A1		
C28	C1	R19	A1		
C29	B1	R20	*A1		
C30	C2	R21	A1		
C31	B2	R22	*A1		
C32	B2	R23	A1		
C33	B1	R24	*A1		
C34	A2	R25	*A1		
C35	A2	R26	*A1		
C36	B1	R27	*A1		
C37	*A2	R28	*A2		
C38	B1	R29	*A1		
C39	*B1	R30	*A1		
C40	*B1	R31	*A1		
C41	*A2	R32	*B2		
C42	B3	R33	*B2		
C60	B2	R34	*A1		
C73	B1	R35	B1		
C74	*B1	R36	*C2		
C75	*A2	R37	*C2		
C76	*B2	R38	*C2		
C77	*B2	R39	*B2		
C78	*B2	R40	*A1		
		R41	*A1		
CN1	B1	R42	*A1		
CN2	A3	R43	*A1		
CN3	*B3	R44	*A1		
		R45	*C1		
CP1	B1	R46	*C1		
		R47	*C1		
D1	*B1	R48	*B2		
D2	*A1	R49	C2		
D3	*A1	R50	B3		
D4	*A1	R51	B1		
D5	*C1	R52	B1		
D6	*C2	R53	*B2		
		R54	*B2		
IC1	A2	R55	*B2		
IC2	*A2	R56	*B2		
IC3	B1	R57	*B2		
IC4	A1	R58	*A1		
IC5	*B2	R59	*B2		
IC6	A2	R60	*B2		
IC7	B2	R61	B1		
IC8	*B2	R62	B3		
IC9	A1	R63	B3		
IC10	A1	R64	B3		
IC11	C1	R65	B3		
IC12	*C1	R66	B3		
IC13	*B2	R67	B3		
IC14	C2	R68	*C2		
IC15	*B1	R69	*C1		
IC17	*B1	R70	*C1		
IC18	B1	R71	*B1		
IC19	B1	R72	*B1		
IC27	*B1	R73	C2		
IC29	*A2	R74	*B2		
IC35	*C1	R75	C3		
IC36	*B1	R76	*B1		
IC38	*C1	R77	*B1		
IC39	C1	R78	C2		
IC40	A1	R79	C2		
		R80	*B1		
L1	B2	R81	B3		
		R82	B3		
Q1	*C1	R83	B2		



OHB-T450WS (J) : S/N 30026 and Higher
OHB-T450WS (UC) : S/N 10091 and Higher
OHB-T450WSP (CE) : S/N 40041 and Higher

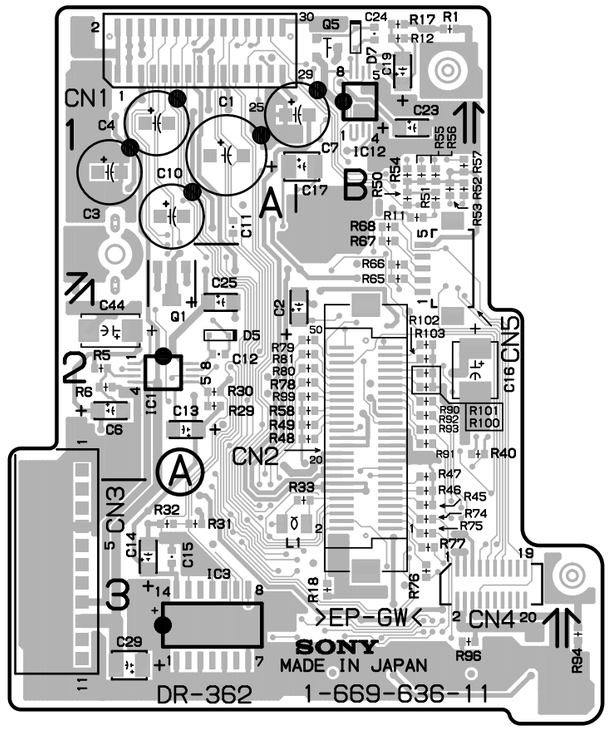
DR-362 -A SIDE-
SUFFIX : -12



DR-362 -B SIDE-
SUFFIX : -12

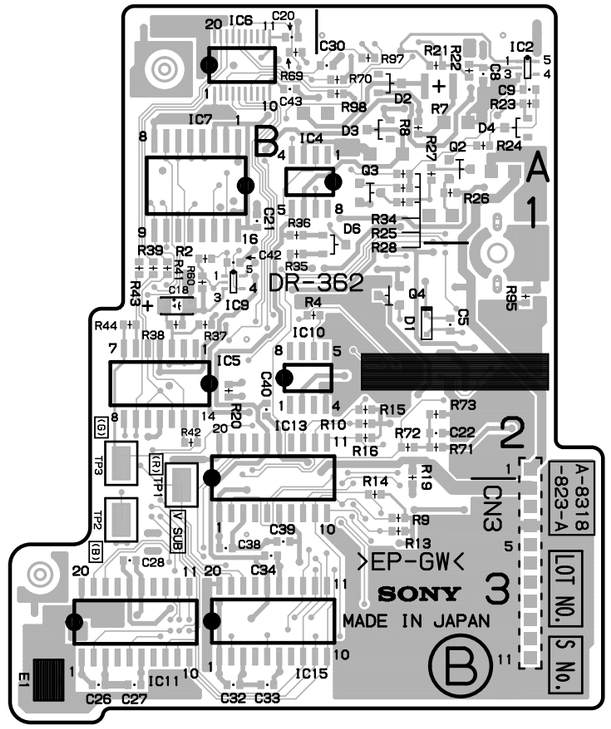
DR-362(1-669-636-12)

C1	A1	R16	*A2
C2	B2	R17	B1
C3	A1	R18	B3
C4	A1	R19	*A2
C5	*A2	R20	*B2
C6	A2	R21	*A1
C7	B1	R22	*A1
C8	*A1	R23	*A1
C9	*A1	R24	*A1
C10	A1	R25	*A1
C12	A2	R26	*A1
C13	A2	R27	*A1
C14	A3	R28	*A1
C15	A3	R29	A2
C16	B2	R30	A2
C17	B1	R31	A3
C18	*B2	R32	A3
C19	B1	R33	B3
C20	*B1	R34	*A1
C21	*B1	R35	*B2
C22	*A2	R36	*B1
C23	B1	R37	*B2
C24	B1	R38	*B2
C25	A2	R39	*B2
C26	*B3	R40	B2
C27	*B3	R41	*B2
C28	*B3	R42	*B2
C29	A3	R43	*B2
C30	*A1	R44	*B2
C32	*B3	R45	B3
C33	*B3	R46	B3
C34	*B3	R47	B2
C38	*B3	R48	B2
C39	*B3	R49	B2
C40	*B2	R50	B1
C42	*B2	R51	B1
C43	*B1	R52	B1
C44	A2	R53	B1
		R54	B1
CN1	A1	R55	B1
CN2	B2	R56	B1
CN3	A3	R57	B1
CN4	B3	R58	B2
CN5	B2	R60	*B2
		R65	B2
D1	*A2	R66	B2
D2	*A1	R67	B1
D3	*A1	R68	B1
D4	*A1	R69	*B1
D5	A2	R70	*A1
D6	*A1	R71	*A2
D7	B1	R72	*A2
D8	*A2	R73	*A2
		R74	B3
E1	*B3	R75	B3
		R76	B3
IC1	A2	R77	B3
IC2	*A1	R78	B2
IC3	A3	R79	B2
IC4	*A1	R80	B2
IC5	*B2	R81	B2
IC6	*B1	R90	B2
IC7	*B1	R91	B2
IC9	*B2	R92	B2
IC10	*B2	R93	B2
IC11	*B3	R94	B3
IC12	B1	R95	*A2
IC13	*B3	R96	B3
IC15	*B3	R97	*A1
		R98	*A1
L1	B3	R99	B2
		R100	B2
Q1	A2	R101	B2
Q2	*A1	R102	B2
Q3	*A1	R103	B2
Q4	*A2	R104	A1
Q5	B1		
		TP1	*B3
R1	B1	TP2	*B3
R2	*B2	TP3	*B2
R4	*B2		
R5	A2	*: B SIDE	
R6	A2		
R7	*A1		
R8	*A1		
R9	*A3		
R10	*A2		
R11	B1		
R12	B1		
R13	*A3		
R14	*A3		
R15	*A2		



OHB-T450WS (J) : S/N 30001 through 30025
OHB-T450WS (UC) : S/N 10001 through 10090
OHB-T450WSP (CE) : S/N 40001 through 40040

DR-362 -A SIDE-
SUFFIX : -11



DR-362 -B SIDE-
SUFFIX : -11

DR-362(1-669-636-11)

C1	A1	R16	*A2
C2	B2	R17	B1
C3	A1	R18	B3
C4	A1	R19	*A2
C5	*A2	R20	*B2
C6	A2	R21	*A1
C7	B1	R22	*A1
C8	*A1	R23	*A1
C9	*A1	R24	*A1
C10	A1	R25	*A1
C11	A1	R26	*A1
C12	A2	R27	*A1
C13	A2	R28	*A1
C14	A3	R29	A2
C15	A3	R30	A2
C16	B2	R31	A3
C17	B1	R32	A3
C18	*B2	R33	B3
C19	B1	R34	*A1
C20	*B1	R35	*B2
C21	*B1	R36	*B1
C22	*A2	R37	*B2
C23	B1	R38	*B2
C24	B1	R39	*B2
C25	A2	R40	B2
C26	*B3	R41	*B2
C27	*B3	R42	*B2
C28	*B3	R43	*B2
C29	A3	R44	*B2
C30	*A1	R45	B3
C32	*B3	R46	B3
C33	*B3	R47	B2
C34	*B3	R48	B2
C38	*B3	R49	B2
C39	*B3	R50	B1
C40	*B2	R51	B1
C42	*B2	R52	B1
C43	*B1	R53	B1
C44	A2	R54	B1
		R55	B1
CN1	A1	R56	B1
CN2	B2	R57	B1
CN3	A3	R58	B2
CN4	B3	R60	*B2
CN5	B2	R65	B2
		R66	B2
D1	*A2	R67	B1
D2	*A1	R68	B1
D3	*A1	R69	*B1
D4	*A1	R70	*A1
D5	A2	R71	*A2
D6	*A1	R72	*A2
D7	B1	R73	*A2
		R74	B3
E1	*B3	R75	B3
		R76	B3
IC1	A2	R77	B3
IC2	*A1	R78	B2
IC3	A3	R79	B2
IC4	*A1	R80	B2
IC5	*B2	R81	B2
IC6	*B1	R90	B2
IC7	*B1	R91	B2
IC9	*B2	R92	B2
IC10	*B2	R93	B2
IC11	*B3	R94	B3
IC12	B1	R95	*A2
IC13	*B3	R96	B3
IC15	*B3	R97	*A1
		R98	*A1
L1	B3	R99	B2
		R100	B2
Q1	A2	R101	B2
Q2	*A1	R102	B2
Q3	*A1	R103	B2
Q4	*A2		
Q5	B1	TP1	*B3
		TP2	*B3
R1	B1	TP3	*B2
R2	*B2		
R4	*B2	*: B SIDE	
R5	A2		
R6	A2		
R7	*A1		
R8	*A1		
R9	*A3		
R10	*A2		
R11	B1		
R12	B1		
R13	*A3		
R14	*A3		
R15	*A2		

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OHB-T450WS (UC, J)
OHB-T450WSP (CE) J, E
3-200-380-04

Sony Corporation
Broadcasting & Professional Systems Company

Printed in Japan
1999. 8 08
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